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## VAN SION NARCISSUS.

MANY will remember their grandmother's garden in the country, where daffodils, peonies and snowballs held the places of honor. The great bunches of double yellow Van Sion daffodils never failed to have large clusters of blossoms that lent beauty to the place and greeted us like a sudden gleam of sunshine on a rainy day. Whether they grew in beds, or were scattered around in the grass where they had absolutely no care, it seemed to make no difference as to their blooming,—they were always full of blossoms. Transplanted from their country home to a village garden, some of these gorgeous Van Sions continued to bloom for a number of years with unabated vigor and beauty. Again transplanted, this time to the back garden of a city lot, for twenty-five years they have flourished, increasing in numbers, but becoming exasperatingly capricious as to blooming. Some years the golden blossoms are plentiful and we can be generous in giving to neighbors and friends and have quantities ourselves. Other years, with no apparent cause, there will be scarcely a flower. They have been taken up and replanted, but have not seemed to blossom any more freely afterward.

Last fall the suggestion was made to take up a clump of these Van Sions and see if they would bloom in the house. The suggestion was acted upon, and early in November a clump was taken up and placed in a seven-inch pot. The pot was put in the cellar and left there until New Years, then brought to the light, thoroughly watered and placed in the kitchen where it had the morning sunshine. When brought out, the leaves were just appearing above the soil; in a few days the buds began to show and in three weeks time the first blossoms opened. Other blossoms followed until eleven were open at once, making a beautiful appearance and lasting at least two weeks. The flowers were not quite as large as when grown in the garden, perhaps because so many bulbs were crowded into one pot, but the color was just as bright, and they had the true daffodil odor.

Up to that time I had not known that the Van Sion could be forced for winter blooming, but since that I have seen some specimens grown singly in pots, which were very fine and large; and at Easter the windows of some of the florists were gay with the beautiful blossoms. It

has been a question in my mind if our winters may not be too cold for the Van Sion, and whether they would not be more sure to bloom if they were covered. At present writing the spring is not far enough advanced to tell whether the bulbs which were left in the ground are going to bloom or not, or whether the clump grown in the house will be our only blossoms. At least we have proved one point,—the Van Sions will blossom in the house, although that may just have been a "happen so" and another year they might disappoint us, and then as Mr. Ellwanger suggests in his charming

book "The Garden's Story," we should be very likely to "break the tenth commandment," for we confess to having the "daffodil-fever" severely. F. B.

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## SUMMER BLOOMING BULBS.

NO garden should be considered complete until it contains a fair proportion of summer blooming bulbs of as many varieties as one can find space for. As bedding plants, French Cannas are superb, their wealth of brilliant, beautiful colors, immense orchid-like flowers, and splendid profusion and continuity of bloom, giving them the place of honor wherever known. They begin to flower very soon after being planted, and only cease with the appearance of frost. If taken up before frost and potted, they make elegant window plants for winter, only requiring rich soil, abundance of sunshine, and plenty of moisture, to bloom beautifully. If started early these cannas will bloom from seeds the first summer, yet if one does not care to de-



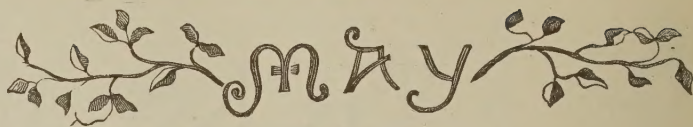
*Large Yellow Daffodil*

NARCISSUS  
DOUBLE VAN SION

pend upon seedling plants for the first seasons bloom, it is wise to plant plenty of good strong bulbs, and allow the seedlings to go on steadily, making fine tubers for the next season.

One mistake nearly all amateur flower growers make, is in never looking ahead to the seasons to come after. How much more quickly our gardens would be veritable flower poems if each season we would do everything possible to add to their future and permanent beauty. A safe way in which to begin such commendable work is to grow a fine lot of canna bulbs from seeds every year for the next summer's bloom. True, if one's means will allow the purchasing of sufficient bulbs, it is not worth while to plant the seeds. Cannas are handsome planted with caladiums, ricinus, and other fine foliaged specimens.





Every one knows and admires the beautiful gladiolus. It will grow and bloom anywhere with almost no care or attention, yet if one pays a little heed to its necessities, the reward will be tenfold. They may be planted at any time from April to July, either in rows three inches apart, or in masses six inches apart each way. The soil should be quite rich and the weeds kept down. Plant them in full sunshine, and keep the soil from becoming packed by stirring it occasionally. Water them whenever the soil becomes too dry, and as they need it tie each one firmly to a neat stake. When planted as closely together as they should be, however, very little staking will be required. Under such care the bed or border will be one solid sheet of superb and brilliant blossoms, many of them unsurpassed by the most magnificent orchid. Some of the varieties are gigantic in size, and of remarkable substance and vigor. Their rich and delicate shades, blendings and marking, are exquisite beyond description. Some of them have beautifully mottled and spotted throats, a veritable network of crimson, white, pink, yellow, etc. They should be purchased and planted by hundreds whenever possible, but if one is only able to buy in small quantities, a fine collection may soon be obtained by adding a few dozen each season. If the flower spikes are cut when just coming into bloom they may be kept in the house for days, if given fresh water daily, and will mature as well as if still on the parent plant in the garden.

Too much cannot be said in favor of the tuberous begonia, either when grown as a pot plant or when planted in the garden. In the latter event it should be given a partially shaded situation, sheltered from winds as much as possible, and a light rich soil. The foliage is elegantly formed, and often very large in size, while the large, thick waxen blossoms are incomparably lovely. Scarlet, crimson, rose, coral, pink, white, lemon and gold, and many exquisite shades of each, this begonia claims as its colors, and wears them in royal profusion all summer long. Start the tubers from March to June, and plant out when the weather is warm and settled. Give water when needed.

The montbretia is another beautiful summer blooming bulb. It is almost hardy, increases very fast, and throws up large spikes of starry rich red and orange flowers in great abundance, and these are very lasting in bloom. The bulbs should be planted in groups or masses six inches apart. If desirable they may be transplanted while in full bloom with perfect safety.

The tigridias are singularly lovely, with immense shell-like flowers, as delicate as orchids. Their wonderful colorings are exquisitely spotted and marked. The ephemeral type of their rare beauty should discourage no one from planting them, as they bloom profusely and constantly all through the summer.

Tritoma uvaria produces tall spikes of brilliant crimson and yellow flowers from August until severe frosts come, and is hardy with protection.

The Madeira vine is very lovely for trellises, rock work, etc., and blooms in racemes of pure white, exquisitely fragrant flowers. It is a free bloomer, but I have had the greatest success with it when the tubers have been planted in good sized boxes and started early in the house. When the weather becomes quite warm, sink the boxes in the soil outdoors, and give abundant water. They bloom much earlier for me in this way.

The summer-flowering oxalis is very charming for bordering or edging, and the foliage is very neat and pretty.

Everyone knows and admires the waxen beauty of the tuberose. It is deliciously fragrant, with large, pure white blossoms, borne on tall, slender spikes. It is very easily grown, but does best in a sunny warm position, planted in a light rich soil, and given abundant water.

And lastly, the queen of all, the regally beautiful *Lilium auratum*, the superb gold-banded lily of Japan. These splendid flowers are enormous in size, freely spotted with brownish crimson, and each petal marked with a band of gold. They are so exquisitely fragrant that one blossom suffices to fill a large room with the delicious perfume, yet so delicate and subtle is its quality one realizes only a haunting sweetness, never a shade too strong, as some beautiful flower odors are.

MARY FOSTER SNIDER.

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**CURL-LEAF OF THE PEACH.**—We have learned in the last two years that spraying will reduce that difficulty to a minimum, and at least save the crop of such varieties as the Elberta or Champion or Mixon, which are very subject to the disease. We find there is wide difference in the varieties as to susceptibility, but spraying for the curl-leaf must be begun very early. We succeed by that process, and have done so all through our State; and, I presume, it has been the same in every other State where the experiment has been tried, with either the Bordeaux mixture or copper sulphate.—*Roland Morrill, Benton Harbor, Mich., before the W. N. Y. Hort. Society.*

She came from the sunny southland,  
This beautiful queen of ours,  
With garlands amid her tresses,  
And, oh! the loveliest flowers.

She crossed o'er the misty moorlands,  
And called to the birds and bees,  
"Come sing in the leafy branches,  
And hum in the clover seas."

She peeped into silent valleys,  
Bequeathing them sun and shade;  
And danced with the tiny wavelets  
That over the pebbles strayed.

She stopped at a vine-clad cottage,  
And wove for the tendrils brown  
The daintiest wreath of leaflets,  
With blossoms the whole to crown,

She looked in the face of childhood,  
And toyed with its sunny hair;  
And touching the pale cheek lightly,  
She painted her roses there.

She went—but tell me, oh, tell me,  
If there is a hill or mead,  
Or bare, bleak nest, or home unblest  
By her kindly smile or deed.

—M. J. Meader Smith.

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#### PLANT ENEMIES AND HOW TO FIGHT THEM.

IT SEEMS as if with each year the horde of destructive insects, which prey upon our fruits, flowers and vegetables, increase in numbers and variety. During the last year or so, I have noticed for the first time in this country the harlequin bug, that most destructive of cabbage insects, which together with the green worm makes the raising of good cabbage a difficult task.

No one should attempt to garden these days without a good syringe and a supply of various insecticides. Not only do we have to make a continuous and determined fight to secure good fruits and vegetables, but the plant enemies have also invaded our flower gardens, and many of our most popular and once easily grown flowers are now rarely seen in perfection. The rose, especially, is a favorite victim of many insects and fungous diseases. But with me the most dreaded of all is the fungus known as the black spot, which not only ruins the crop of flowers by causing the foliage to drop, but greatly lessens the vitality of the plants, making them much more liable to winter-kill and to start a weak puny growth the next spring, thus falling a ready victim to the disease again. To successfully combat this plague requires prompt and thorough treatment. Bordeaux mixture is the remedy, and the plants should be thoroughly sprayed with it before the leaves start in the spring, and once or twice every week thereafter during the entire growing season, using care to destroy all diseased leaves.

The cosmos borer is very destructive to cosmos, dahlias and asters, frequently destroying all the plants, or so damaging them as to cause them to produce very inferior flowers. I was at a loss to know how to deal with this pest for some time, but finally found the following to be a complete remedy, if used in time: Take one level teaspoonful Paris green to three gallons of water, and pour around the base of the stalk so as to soak the ground for two or three inches deep, commencing when the plants are only about a foot high, and repeating the application once every week until the plant is about grown.

The black flower beetle is a most disgusting and troublesome pest, and seems to be spreading over the country. It resembles the common blister beetle (indeed, is a species of blister beetle), but it is smaller and jet black in color. It feeds on the open flowers of the hollyhock, aster, and a few other, but those mentioned are their favorite food. One bug will in a little while disfigure and utterly ruin the finest flower. When disturbed they drop to the ground, and the best way to get rid of them is to take a shallow pan of water, into which a little kerosene has been poured, and gather the bugs into it by shaking the flowers gently over the pan. The kerosene will kill them instantly. One should look the plants over twice each day, while any bugs are to be found.

MARTIN BENSON.



## SEED PODS.

MANY OF THE tender roses that we thought were killed by the severe winter are springing up from the roots again.

A PRETTY MAY basket can be made by filling half a cocoanut shell with rich soil and then planting in it pink and white oxalis bulbs. Bore a hole in the bottom for drainage and two others in the side to hang it by.

SPRAYS OF DARK English ivy leaves naturally twined together and tied with white ribbon, in which is caught a few sprays of choice white flowers, is as pretty an offering as one can place on the grave of a dead friend.

AN OLD LADY friend of mine has a long row of peonies in her garden. "They are my Decoration Day flowers," she says, "and every flower is big enough for a bouquet. Last year I cut fifty-six flowers, with a leaf-spray to go with each one, and put a blossom on every soldier's grave I came to. They do not wilt quickly like most flowers, either. Mine were the freshest posies I saw in the cemetery."

ONE OF THE prettiest light colored sweet peas that I saw growing last summer was the Bride of Niagara, shown in the engraving accompanying this "pod." The flowers are airier and more spirited in outline than those of the big, heavy Blanche Burpee. Is it the Dutchmen among us who insist that in order to be beautiful a flower must also be bouncing? For the pretty photograph of the flowers I am indebted to the skill of Mr. J. Horace McFarland.

SOME OF THE very prettiest flowers I saw forced for Easter were little bushes of *Deutzia gracilis*. They were two- and three-year plants set in eight- and ten-inch pots. The florist told me that he lifted them from his garden in August, potted them in rich ordinary garden soil, and left the pots standing outdoors with a little manure between them and a mulch of salt hay over them, until about the middle of January. Then he brought them into a house where the temperature was about 50°, and treated them like his other plants. He was selling the little beauties for \$2.50 apiece. Yet this is work that any of us can do. I, for one, shall try it, anyway.

THE LAWSON CARNATION, it seems to me, suffered first from too much praise, and finally from too much abuse. It is a very beautiful flower, there is no denying; as I saw it in Pennock Bros.' window, Philadelphia, it was certainly superb. The color is the soft, glowing cerise-pink so popular now; the stems were stiff and long, the flower large and beautifully formed. It must be that, as usual, to meet the demand caused by sensational advertising, the flowers are being unduly forced. Whether it will thrive well in plain, every-day house culture, is what we amateurs would like to know.

I ASKED FOR a plant of the Baby primrose, *Primula Forbesii*, the other day, and the florist offered me *Primula obconica*. When I objected he said "Oh, they're the same thing!" Anyone who has ever seen *Primula Forbesii* growing will not agree with him. The two plants are very different; *P. obconica* is much the stronger in growth, and has many more pretty leaves at the base of its flower-stems, which are a great deal shorter than those of *P. Forbesii*. The color, too, is lilac or white in *P. obconica*, while the blossoms and clusters of the Baby primrose are smaller and distinctly tinted with mauve. It is an exceedingly pretty, delicate little flower,—too delicate, I am afraid to succeed in gen-

eral culture. The long stems and dainty, pale mauve flowers are lovely for making up with laelias, cattleyas and some other orchids, with maiden-hair fern for green. But a thicker, healthier cluster of root-leaves and a general infusion of "robustness" into the plant would greatly improve its appearance.

ALONG WITH THE pretty little variegated pineapple, the plain green variety is beginning to be grown for decorative use while in the fruiting stage. Perhaps by and by, "decorative" plants may have some show of becoming interesting through their greater variety. It will be a good while, I imagine, before pineapples are made of tin.

A DEAR LITTLE PALM that seems to me altogether out of the ordinary and as cunning as can be, is *Livistonia rotundifolia*, the dwarf Chinese Fan palm. A little plant was sent us the other day that measures only five inches from the top of the pot to the tip of its tiny unfolding leaf, yet it has nine perfect, glossy leaves! Set in a pretty jardiniere it is a perfect table plant, there being no bare spaces around its stem. The broad, round, shell-shaped leaves are perfect miniatures of *Latania Borbonica*'s.

ANOTHER LITTLE plant that quite won my heart, although it does belong to the much caricatured "foliage" section, was *Dracaena Sanderiana*. It has a straight, independent stem, and its small leaves, stiff and narrow, with a clear, distinct vein of white. In time it makes a bushy, clear-cut little plant quite different from all other dracaenas. Some of the florists "make up" specimens which they consider more effective, by setting five plants in a six-inch pot. Some of these specimens have one plant of *D. Sanderiana* in the center with plants of *D. terminalis* around it. The contrast of white and pale-green is very pretty, but the specimens just as they grow naturally are far prettier.

THIS "MAKING UP" of specimens is getting to be quite a fad for all sorts of plants, especially for palms, ferns, etc. Kentias, arecas and cocos in "bush form" are now offered in almost every store, the same as ready-made clothing. It is a good way the florists have of getting rid of poor specimens whose lack of symmetry is not betrayed in this

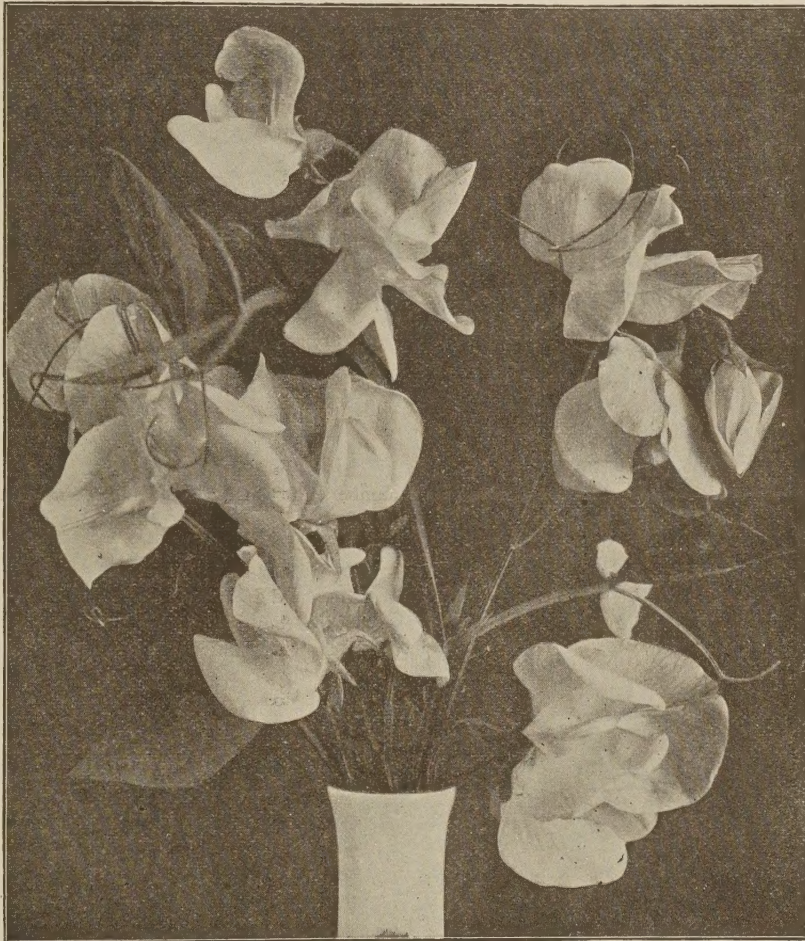
handy "bush form." Then, too, a great many more plants can be sold in this way. But crowded five or six in a small pot, how long will they grow after you have purchased and carried them home? The dainty little cocos palm makes up into the prettiest specimens of all. L. G.

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## HYBRID PERPETUALS IN POTS.

IN THE most northern States it is sometimes a difficult matter to winter some of the finest varieties of Hybrid Perpetual roses in the open ground. If unprotected they are liable to winter kill, and if the protection is improperly made they may smother and die, root and branch. Those who have been unsuccessful with their favorites out of doors will find that they make the very finest pot roses, beautiful in foliage and flower, rapid in growth and easily cared for.

Plants procured in the spring should be potted in the soil usually used for pot or tea roses, viz: equal parts of good garden loam, thoroughly decayed sods or leaf mold and well-rotted stable manure. After the plants begin to grow thriftily a little of the top soil may be removed and the pots refilled with rich soil, to which bone meal has been added. During the summer the pots should be plunged in the ground, where



DOUBLE SWEET PEA  
BRIDE OF NIAGARA



they will receive the full benefit of the air and sunshine. Care must be taken that the plants do not dry out or suffer from insect pests. They may remain out of doors until after two or three sharp frosts have killed the leaves and left the branches quite bare, then be removed to the cellar. The soil should not be wet enough to mold, but must not be allowed to become dry. The plants can remain in the cellar until the leaf buds begin to swell, the time depending largely upon the temperature of the cellar, a cold one retarding and a warm one hastening growth. Usually roses that have been wintered in the cellar will be in full bloom a month or six weeks before those that have wintered out of doors. When taken from a cellar, roses should be pruned with a free hand, all weak, tender, unsightly branches removed, and the previous summer's growth shortened. After blooming they may be repotted, if the pot seems too small, if not, much of the old-soil may be removed by washing it out with a hose or sprinkling can, and new, rich soil, added.

Last spring I saw two Hybrid Perpetuals growing in large boxes, about two and a half feet square and the same depth; they were grafted roses and trained in tree form, the taller being about five feet high, symmetrical in shape and full of buds and perfect roses. My own choice, however, is for a rose on its own roots and kept in bush form.

Some of the best Hybrid Perpetuals for pot culture, giving a range of color, are:

MARCHIONESS OF LONDONDERRY—Pure white, very large flowers; an unusually strong and rapid grower.

LA FRANCE—Silvery pink. This rose and its sports are extra good for pot culture.

ANNA DE DIESBACH—Crimson, very beautiful buds.

PRINCE CAMILLE DE ROHAN—Velvety maroon; one of the darkest roses of this class.

I. McROSS.

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#### RASPBERRIES IN NORTH ALABAMA.

FOR SEVERAL YEARS I have been experimenting with raspberries here in Alabama, in the mineral region, where the delicious fruit is conspicuous by reason of its absence. Yellow clay soil, sticky to the last degree when wet, and as hard almost as a stone when dry, with stumps and great jagged pieces of limestone cropping out at intervals, was the basis of my operations. Certainly a most discouraging outlook; still, patience and perseverance will work wonders, and last season I felt that my labor had not been in vain, for I could gather great heaping bowls of luscious berries, golden, red, purple and black, almost as lovely to sight and smell as to taste, for breakfast, dinner and tea, to share with my friends and neighbors, and last, but not least, to sell to the swell hotel of a neighboring city for 20 cents per quart, while others, shipped from a distance, could be bought in the market at 12½ cents. Still, I did not find it necessary to send them even so far as that, as a ready market was found at my own door. My grocer, too, kindly offered to sell any of my produce, so I had no trouble in disposing of all my surplus at a good price.

The soil of my fruit garden, which occupies about half an acre of ground, has been enriched with stable manure and coal and wood ashes from time to time, until the sticky clay has been converted into a friable loam, at least for the depth of a foot to a foot and a half.

I started with ten Golden Queen, for which I paid 75 cents; twenty-five Cuthbert, twenty-five Shaffer and twelve Gregg, paying for the last three varieties at the rate of \$2.00 per hundred. Three years ago I bought of the Vicks one-half dozen Columbians, paying as well as I can remember \$2.70 for them, together with three Rathbun blackberries. After a thorough trial of the Shaffers, I pronounce them entirely worthless and unreliable, at least with the treatment I gave them, and under which the Golden Queen and Cuthbert have thriven and yielded a burden of fragrant fruit in their season, which here begins the last of May and continues for about two months, unless cut short by drouth.

But the Columbians! Words fail to do them justice. The masses of luxuriant green vines were a sight to behold, so full were they of delicious fruit, coming in just a little later than the Queen and Cuthbert, but lasting until long after they were gone. No other varieties that I have ever seen can compare with them in size, quality, productiveness and hardiness. I have had a good opportunity to test the last named quality, for during the month of February just passed, the thermometer registered 10° below zero, which was something entirely unprecedented here, as the lowest point reached heretofore was 4° above, several years ago. The Queens and Cuthberts seem to be badly hurt, many of the canes being dead to the roots, but the Columbians look unhurt, and last week, the weather in the meantime having become warm as summer, they began to bud out. Today, though, it is snowing furiously and the mercury is falling rapidly, so there will be another strain put upon their

vitality. I believe, however, that they will stand the strain, and yield a bountiful crop in due season.

The Greggs, somehow, have failed to do as well even as the Queens and Cuthberts, so I intend, this year, to try the Black Diamond and Cumberland, of which I see such favorable accounts, as I find many persons prefer the flavor of the black varieties.

During the bearing season last year I filled several shallow dishes with the berries, each variety being in a separate dish, and placed them in a prominent window of a drug store up town. They occasioned a great deal of admiring comment, and some persons refused to believe that they were not wax until they had examined them closely. I have sold a good many plants, besides planting out new beds myself. The trouble is, however, that few are willing to give them the necessary care and attention requisite to carry them through the long, hot, dry seasons, when, if they are not watered, they are apt to die. Here the heat is much harder to contend against than the cold, and the sudden transitions from cold weather to mild are an added difficulty which it is impossible to guard against. For a few years now I have had ripe berries in October, November, and some even in December, from the red and yellow varieties. Some of the young canes put out early in the spring, in well-enriched soil, and well watered during the hot, dry spells, have blossomed and yielded some dainty little dishes during the late fall, and at Thanksgiving last year, I surprised some of our guests by serving them with fresh raspberries for dessert. I don't suppose it would be possible to produce a full crop in the fall, still, it shows how the length of the season can change the habits of a plant.

The Rathbun blackberries have done almost as well in their way as the Columbian raspberries. The mammoth, jet-black, glossy fruit commands admiration wherever seen, and what is better, it will bring 20 cents per quart when ordinary blackberries are a drug on the market at "10 cents a gallon," as the little venders sell them in the height of the season.

The Vicks certainly deserve the hearty thanks and everlasting patronage and support of their customers for introducing the Columbian raspberry and Rathbun blackberry, if for nothing else.

Bessemer, Ala.

MRS. J. H. HARD.

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#### SOLANUM SEAFORTHIANUM.

The accompanying engraving is copied from *La Semaine Horticole*, and shows a species of solanum even more floriferous than *S. jasminoides floribundum*, which it resembles in its habits generally. It is a West Indian plant, and is well adapted to greenhouse culture and for planting out in summer. In a state of nature the plants clamber over bushes and shrubs, and consequently when grown in pots or the open ground must be supplied with some form of support. It blooms freely on the new growth from the beginning of summer to the end of the season. The flowers are in large clusters, and are of a lilac or clear violet color. The clusters are numerous, last a long time, and the flowers are finally succeeded with clusters of berries. The engraving shows that the leaves, like those of many other species of solanum, are variously lobed and divided. It will undoubtedly be found a graceful and interesting decorative plant for different positions. As a window plant of easy culture it will be found to thrive and to be an object of more than usual grace and beauty.



SOLANUM SEAFORTHIANUM





LOURYA CAMPANULATA

**LOURYA CAMPANULATA.**

**A** PLANT of peculiar aspect is shown by the engravings given on this page, and which have been taken from the *Gardeners' Chronicle*. Like the aspidistra, with somewhat similar leaves growing from the root-stock, it also bears its flowers at the base of the plant, as comports a member of the same or closely allied tribe. The plant is a native of Cochin-China and has been known to Europeans only for the past ten years. The following account is given by the *Gardeners' Chronicle* in its issue of February 25th:

"This is a Cochin-China plant described by the late Prof. Baillon. It was exhibited at the last meeting of the Royal Horticultural Society, and as will be seen, has much of the general appearance of an aspidistra, but the inflorescence is more elongated. The perianth resembles that of the lily of the valley, but has a purple blotch at the base. The structure of the flower, as described by Baillon, is very curious, and shows that the plant must be placed among the Pellosanthææ, near to Ophiopogon. The dense raceme of flowers is followed by a cluster of bright blue berries, each oblong, ovate, about one inch in length by three-fourths inch in breadth. While the plant will serve the same purpose as the aspidistra, it will be seen that the flowers, and especially the fruit, render it still more attractive."

It is to be hoped that another season this interesting plant may be offered by dealers in this country.

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**RELATION OF WATER TO PLANT LIFE.**

**V**EGETABLE substances are all largely composed of water,—finding sustenance in water as people do in food. Plants take water only through the roots, though many suppose that they also receive it through the leaves; instead of that, they readily part with their moisture through the pores of the leaves. An estimate has been made by scientists, that in hot weather plants throw off one and one-fourth ounces of water each day for every square foot of leaf surface. Some plants evaporate the water even faster than that, corn showing a very high rate. An experiment in Wisconsin showed that for each ton of dry corn produced, 309 tons of water were taken from the soil; for each ton of red clover 450 tons of water were used, and for each ton of oats 520 tons of water were necessary.

The leaves of plants throwing off water so fast, is the cause of cuttings withering so quickly in hot weather when the foliage is left on, while if it is removed they will remain firm and fresh. The leaves keep up the evaporation just the same as when the slip is on the plant, though there is no new supply furnished by the root; and the slip, when robbed of all its moisture, must wilt and die. The same rule applies to young turnips, radishes, etc., that are put on the market; those that are left with the leaves on wilt quickly in the heat; while those that have had the leaves removed, leaving only the stubs of the leaf stems, remain fresh and plump. Many people take advantage of this fact when cutting timber, felling it in summer, when in full leaf, as the leaves then cause the water in the wood to evaporate very fast, leaving it in much better condition for immediate use. A large tree in a growing condition will throw many tons of water into the air during the few months that it bears foliage each year. The tiny rootlets are each provided with a cup-like arrangement at the end, which rapidly draws in water from the surrounding soil to supply the tree, and as the roots extend to a great distance in all

directions, they tap the soil completely.

The delicate bloom often seen on fruit and foliage is of a waxy nature and its use has only recently been determined. Experiments prove that its chief purpose is to prevent the too rapid loss of water, and when it is removed it has been found that evaporation takes place more than twice as fast as when it is undisturbed. Nature has made a wonderful provision for cactus plants in this respect; the skin of such plants is air-tight, which enables them to live and flourish in places where moisture is very scarce and the sun is so hot that if evaporation were possible all the moisture in the plants would be gone in a few hours.

There is an interesting thing with reference to the rainfall in connection with the experiment on corn; each inch of rainfall on an acre is calculated to be about 113 tons of water, so at that rate it only requires less than three inches of rain to produce a ton of corn from an acre of land. When the rainfall is greater than that much of it is wasted, while some remains in the ground for future use.

This study of water, as related to plant life, is a vast one, and one that is too little understood. It seems that the most of our knowledge must come by actual experience and by long continued experiments of scientists, so it necessarily comes slowly.

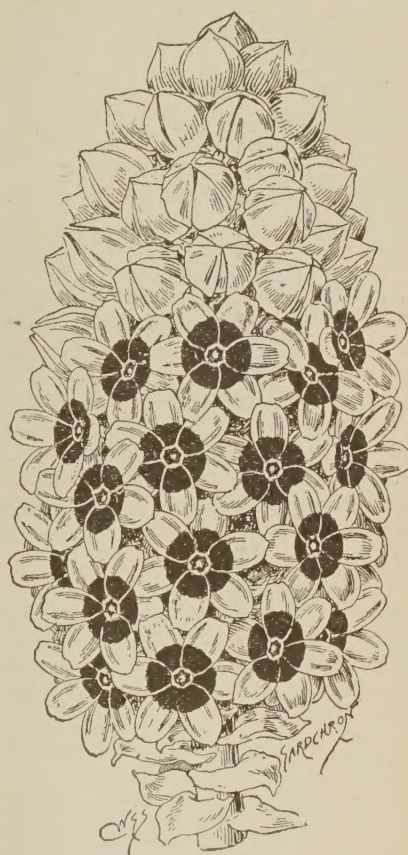
MRS. H. M. WOODWARD.

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**ANTIRRHINUM, OR SNAPDRAGON.**

**I**F there is one variety of flowering plants, more than another, that gives the best of satisfaction, it is the biennial or perennial that blooms the first year from seed. When you have tended plants through the nursery stage you have them for two years, and maybe a lifetime. Like the rest of the animate world, babyhood is a season of trial and care, and for those that must economize in labor because of manifold duties, let them try such flowers as dianthus, pansies, *Coreopsis lanceolata*, *Bellis perennis* (or daisy) and antirrhinum. I wish to lay double stress on antirrhinum or snapdragon. If it was only better known it could not fail of being a universal favorite. In the old-time garden of my grandmother the plants were grown, and each spring during the refitting of the garden they were taken up and set on the grassy margin, to be returned later. Those were small and poorly colored compared to the blooms of today.

The seeds are fine and require only a slight covering of soil. It takes about ten days or two weeks for them to germinate. If grown in the house, place three thicknesses of newspaper over the seed-bed, dampening these as often as the soil looks dry. The little plants are rather slender growers, and like all hardy plants grown indoors must be kept cool and given an airy position that they may not "damp off." Once outside in rich soil and half-sunlight they grow robust and healthy, throwing out many side branches which terminate in spikes of lovely bloom. Rich and velvety reds and yellows, creamy whites, yellows

LOURYA CAMPANULATA  
SHOWING INFLORESCENCE  
natural size



splashed and dotted with red, and reds veined and margined with yellow. All these and many more with that velvety texture which gives a depth and beauty very close to perfection. And then the perfume! It is like ripe fruit, reminding one of the yellow mandrake apple we used to find in the days of "auld lang syne."

The foliage is, in itself, a pleasure, being such a clean, dark, glossy green, shaped something like the myrtle leaf, and in bouquet-making is all the green necessary as a setting for the flowers; bunch them loosely in a low, broad pitcher,—you will be proud of your taste, and have a vase of flowers whose staying qualities are unsurpassed.

Last spring, I found by earthing up the plants early in the season, that every branch threw out roots and could then be removed, thus forming an individual plant. There is, in this, the advantage of knowing which are the light and dark colors and setting them accordingly. This can also be determined, to some extent, in the baby plants, the light ones having much lighter stems and foliage.

They are good feeders, throwing out vast numbers of fine, fibrous roots which should be liberally supplied with nutriment, or you will find them forming buds that fail to develop into flowers. Liquid manure is what best agrees with them. Do not use strawy manure as a winter protection; as with the hollyhock, it may cause decay of the plants; better use leaves or clean straw.

The snapdragon is called half-hardy, but last winter mine stood test of Western New York without any protection. To be sure, I lost a few plants, but the bed was quite full without them. They will grow readily from slips treated like geraniums, and vacancies can easily be filled in this way. Edge the bed with the Tom Thumb varieties and you will have a thing of beauty.

L. E. L.



*Calico Bush*  
*Spoonwood*

KALMIA LATIFOLIA  
MOUNTAIN LAUREL

#### MOUNTAIN LAUREL.

WE have we called this hardy shrub the "Woodland Queen," for during its flowering season,—from mid-June until the first of August,—it is quite without a rival. How lavishly its bloom is lifted in tapering spires, in flushing pillars, in great columns and masses. Such an abundance we gather, and yet the supply seems never depleted. Where you find the green banner of the pines crowning some rocky hillside, there seek the mountain laurel, for they are ever companions, each supplementing and intensifying the beauty of the other.

To me the mention of mountain laurel brings the picture of a low-roofed cottage home. Behind it the murmuring pines whisper their secrets of past generations; and below, a steep hillside, crowded with pink and white bloom, stretches down to the deep, dark mountain stream. Just as the shadows deepen, the full July moon rises majestically above the horizon, and across the banks of mountain laurel rings the melodious voice of the whip-poor-will.

Beneath the pine's protecting shade  
Along the borders of the stream,  
Sun-brightened in the open glade,  
I see the Mountain Laurel gleam.  
Each dainty cup a chalice lent  
To hold the fairies' draft of dew,  
The green of ocean in its blent  
With roseate dawn's elusive hue.

LALIA MITCHELL.

#### NOTES FROM THE MIDDLE WEST.

THE winter has been unusually severe. It has not had an equal in the last thirty years. It is yet too early to say with positiveness what amount of damage our gardens and grounds have suffered. Nevertheless, a shrewd guess can be made. In roses Vick's Caprice is in good condition. Five varieties of clematis are unhurt. Clematis paniculata is a very valuable sort; mine is trained against a bare wall, and when in bloom, which is late in the season, is admired without stint. The honeysuckles, three varieties, are in good health; this flowering vine is a necessity in all well-ordered grounds; the common orange-flowered blooms all the season and is a favorite foraging ground of the humming-bird, the beautiful ruby throat. The extreme cold and long freezing killed the blades of the Yucca filamentosa half way down, but they will easily outgrow the damage; so striking is this noble plant when in flower that the local papers devote quite a paragraph to the description. My rudbeckia is a much admired plant, entirely hardy; a clump of it is a striking object, the yellow is so brilliant and the flower itself so double; it would be sadly missed if by any means should be destroyed. The clove-scented pinks are asleep under a good covering of slough grass; the slender leaves are as delicately green as they were last summer; it was grandmother's favorite little flower, and it is one of mine. The Russian violets, too, are safe under the same blanket of long grass. It is a matter of wonder that this protection is so efficient; but it is, nor is it much of a chore to supply it, late in the fall.

The Aquilegia Canadensis is a native summer flower of what few natural groves are interspersed among our prairies; under cultivation it becomes as large a clump as any of its relatives and needs no protection. Nor have I ever covered any of the improved varieties, and every summer I am belighted by their beauty. Speaking of native flowers, I have a lovely showing of the little dicentra (little boy's breeches), red puccoon (bloodroot), and two varieties of violets. The variety known as Viola canina, with leaf much toothed, and exceedingly floriferous, is most plentiful upon poor points in the prairie; these points are the favorite grounds for rattle snakes. Years ago I was a surveyor, and as the country was new, learned a good deal of the habits of this dangerous reptile. I have destroyed a great many of them. They are, however, becoming quite scarce, for which we prairie dwellers are devoutly thankful.

Last season I planted some dahlias, from Vick's, which taught me a lesson. The summer was excessively dry, and the plants seemed to be striving for life; but in late August there came a rain and they shot up wonderfully. Presently they bloomed, and I had lovely flowers until the frosts came.

It would not do to omit reporting the small fruits. The Rathbun blackberries are perfectly green; winter did not scathe them. The same with the raspberries. As for the strawberries they grew astonishingly, bore quite a little, and are now as green in leaf underneath their mulch as they were when covered. Why any farmstead on these wide prairies should be without lovely surroundings and delicious small fruits, is a situation which I cannot fathom. Especially when, all told, they cost so little.

THE PARSON.

Six Gables, near Knoxville, Iowa.

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#### MOTHERLY CARES.

A WISE mother is apt to be successful with plants. It is the every-day providing for little wants that makes the happy child, or brings plenty of flowers. Take setting out seedlings for example; one woman will rarely or never fail, while another may have a few sickly flowers, but the plants will not do their very best. For transplanting, a cloudy day is best; take up the little things in a mass and pull out the most thrifty, throwing the rest away. It is a good thing to learn how many plants to have in the space at command; six perfect plants, with room to show off their good points all around, are better than a dozen crowded together. One year I set my balsams twelve inches apart and they showed their appreciation by blooming all around, from top to bottom, like little trees, whereas when close together just a few blossoms would show on top.

The motherly hand will gently take the baby seedlings, make a hole in soft soil with the fingers, spread out the roots, and bring up the soil around the stem, and press it down to bring it into contact with the roots. A rubber sprinkler will give them enough water. Her sweet peas have a wire netting to run upon, and all her vines are carefully considered in the way of strings and trellises. As a true mother likes to have everything shipshape and convenient in her nursery, the plant lover will not consider money misspent to make the plants more comfortable and working among them easier. I have seen women trying to loosen the soil with an old fork, and carrying baskets of soil quite a distance to put around the plants. Now a light, strong spade will not cost



much and it will make digging delightful; a good trowel, too, is a mainstay. But one of the most useful things for working in a garden is a boy's express wagon; they come strongly made and narrow enough to be pulled through the paths. I have one that is my "right-hand man;" it saves hundreds of steps, carries the pots from house to garden or back again, receives sticks, stones and weeds, or accompanies us to the fields to be filled with fresh meadow soil.

A good watering pot is another necessity. To save steps and climbing the stairs I have a large tub under the kitchen window, and a short rubber pipe connected with the faucet in the kitchen sink brings the water into it, and this can be put in the sprinkler to be distributed when wanted.

Brains and Gardening are a splendid pair. Let us have them both when we go to work this spring..

ANNA LYMAN.

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#### DECORATING COUNTRY CHURCHES.

THE people of East Charlemont, Mass., like to see their tidy little church brightened by at least a few flowers every Sunday. The flower committee of their Christian Endeavor society interested in the cause many ladies of the church, and the plan devised for church decoration was so simple and successful that it may be found helpful to other churches. At the beginning of the year a meeting is called for all members interested in church decoration. At this meeting all the ladies present are asked to write below their names, upon a slip of paper, the date of some Sunday in the year when it will be most convenient for them to furnish flowers for church decoration, and to superintend the work of arranging them. Ladies who have conservatories, or fine collections of window plants, are likely to choose the winter months; those who have only out door gardens, midsummer Sundays; those who have no garden at all, days in spring and autumn when wild flowers are abundant. The slips of paper are collected by the chairman of the committee, who makes a calendar of the Sundays, with the decorator's name opposite each one and hangs it in the vestibule of the church.

If it is found that several have chosen the same Sunday, usually the parties will agree to help each other, or fix upon a second choice. If there are Sundays that no one has chosen, then the work of decorating falls upon the flower committee.

Some of the most tasteful decorations I ever saw were in country churches, and of wild flowers. Azalea-day, Goldenrod-day, Aster-day, Daisy-day, etc., on which the decorations of these flowers were signal successes, are still fresh in my memory. Sometimes when Easter comes in April, and there is a dearth of Easter lilies, sheaves of great snowy dogwood blossoms take their places, and at Thanksgiving there is always a perfect glory of chrysanthemums in the little church. Apple-blossom day is one of the prettiest of all; Sweet-brier Sunday another.

The young people always meet at the church for the work late Saturday afternoon, so that the flowers may be fresh on Sabbath morning. If there are to be only one or two vases of fine flowers, the decorator comes early to church and brings them with her.

L. GREENLEE.

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#### NORFOLK ISLAND PINES.

The Norfolk Island Pine, *Araucaria excelsa*, and its varieties are popular decorative house plants and appear to be well adapted to the conditions to which they are subjected in such use. Kept in the cooler part of the room, with more or less light, and due attention to soil moisture the plants preserve their foliage and color well for months and even years. Care should be taken as much as possible to keep them free from dust, and frequent spraying or syringing them is desirable. The engraving herewith shows a variety which grows more compact and with shorter internodes than the plants of the species.

#### MY BAY WINDOW LAST WINTER.

I OBTAINED so much pleasure out of a few inexpensive, but well-cared-for, plants the past winter, that I am tempted to tell the readers of VICKS MAGAZINE about them. Last fall I could not get a collection of bulbs for winter blooming, but determined to have my sitting room cheerful without them. The result has been most satisfactory. Most bay windows have two or three shelves running all the way around at regular intervals. Mine has only one broad shelf, just beneath the lower sash, on which are placed the taller plants. The others are disposed on brackets, irregularly, here and there. The effect is much more pleasing and artistic. On my shelf I have one double pink ivy geranium, trained over a frame; two large geraniums, bearing great clusters of dark red blossoms; two begonias, Paul Bruant, almost covered with masses of pink bloom; and *argentea guttata*, flowers white. On the brackets are a large sword fern, the fronds drooping gracefully; a lavender fern, which droops elegantly over the sides of the pot, almost hiding it; a nutmeg plant, with pretty green leaves, surrounded by a margin of white; a leopard plant with odd-shaped, spotted leaves; a pot of *ageratum*, the plants almost covered with plume-like blue flowers; a pot of *Marguerites*, with their snowy flowers; an umbrella plant, and a pot of cyclamen. Running up each side and over head are graceful ivy and Madeira vines.

At one side of the bay, on a tall support, stands *Asparagus plumosus*,

trained over a large wire globe, twenty-two inches in diameter; at the other side stands my aquarium, in which pretty gold fish dart here and there, through a filmy haze of parrot's feather. Suspended from the ceiling, in a large wire basket, my *Asparagus Sprengeri* droops downward in clouds of feathery green. This completes my list of plants—none of them expensive or hard to cultivate—yet my window has been a source of pleasure to myself and friends through the long dreary months of winter.

MRS. C. H. T.

Sinclairville, N. Y.

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#### CYCLAMEN

##### PERSICUM.

Whatever advantage there may be in growing this useful plant as an annual, there can be no doubt that well fed plants in the second year produce a much larger num-

ber of flowers. No doubt in many cases the bulbs are so badly treated after blooming, that the ensuing season sees them weakened and capable only of throwing up a few small flowers, but this will not be the case if proper care is taken of them. The plants ought, if possible, to remain in a similar temperature to that which they have flowered in and be allowed to finish their growth properly. This they cannot do if as soon as the best of the flowers are over the plants are dried off and packed close together under the stage or in a dark frame. It is easy to see when the plants have reached the maximum growth, and after this they ought to be exposed to the full sun and the water supply gradually lessened until they are quite dry at the roots. Repot when new growth starts and keep the plants gently growing through the winter in a light house, little or no shading being needed until in full flower. So treated I have two-year-old plants, and some three-year-old, carrying forty or fifty flowers each, with many buds to follow.—J. C., in *The Garden*.

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*COLEUS THYRSOIDEUS*.—A writer in *The Garden*, giving notes from the Kew Gardens, notices a new species of coleus with the above name, having showy blue flowers. "Several plants raised from cuttings in spring and grown on in a warm greenhouse in summer, have formed shapely bushes two feet high and wide, and in December they developed terminal thyrsoid panicles, nine inches high, of flowers of the brightest gentian-blue color, which have been an attraction for nearly two months and are still good. \* \* \* I know of no plant that is more effective in winter. \* \* \* It is worth the attention of all who are interested in winter-flowering greenhouse plants."



## VICKS ILLUSTRATED MONTHLY... MAGAZINE

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CHARLES W. SEELYE, Editor.

ELIAS A. LONG, Associate.  
Formerly conductor of *Popular Gardening*

Publishers are invited to use any articles contained in this number, if proper credit is given.

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## A Noted American Horticulturist.

Edward A. Rogers, who years ago made his name familiar in this country, died at Peabody, Mass., on the 30th of March. Mr. Roger's special contribution to the horticulture of this country consisted in hybridizing the wild *Labrusca* or Fox Grape of Massachusetts with several varieties of the European grape. The result was a large number of seedlings, many of them having valuable qualities. The most desirable of them were afterwards named, and many of them have been widely distributed, such as *Aminia*, *Agawam*, *Barry*, *Lindley*, *Wilder*, *Salem*, *Massasoit*, *Merrimac*, etc. This work of Mr. Rogers will probably continue to benefit American horticulture, as the recrossing of these varieties with others of this country is almost sure to lead to the production of varieties of still greater value.

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## Death of a Noted Orchidist.

Mr. George Savage, who for the past fifteen years had charge of the Kimball Conservatory in this city, died on the 16th of April, aged fifty-four years, leaving a wife, and one brother in California. Mr. Savage was born in England and there learned his business. When he came to this country he was engaged in New Jersey for eight years, and then made an engagement with the late Wm. S. Kimball, of this city, to come here and take charge of his greenhouses, which were mostly devoted to orchids. Under the management of Mr. Savage, and in accordance with the taste and desires of Mr. Kimball, the collection of orchids at these houses became famous, and Mr. Savage became widely known, both in this country and abroad, as a most devoted and skilful orchid grower. On the death of Mr. Kimball, a few years since, it was decided to continue the care of the fine collection, and Mr. Savage had his hands and his heart full in this interesting work. Mr. Savage was a person of unusually cheerful and agreeable presence, a friend to everyone and who had everyone for his friend. His death will be a personal loss to all who knew him, and it will be a distinct blow to the higher horticultural work of this city and region.

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## Recent Bulletins.

SOILS, ORCHARDS AND FARM PRODUCTS.—A late issue of the U. S. Department of Agriculture, Washington, D. C., is that of Farmers' Bulletin, No. 87, Experiment Station Work VIII. This bulletin contains nine brief articles. The first calls attention to the importance of conserving and economizing the moisture of the soil; the second to the influence of different systems of farming on the fertility of the soil; and the third to "cover crops" for orchards. Then follows an article on cultivating and cropping orchards. The next describes a method of applying slight water pressure to the roots of newly transplanted trees as a means of promoting the starting the buds, thereby preventing failure in transplanting. One article relates to the "Food Value of Hen's Eggs," another to "The Toad as a Friend of the Farmer." The last named article recites the great and beneficial results accomplished through this little animal and says that the ugly and despised toad is a faithful and efficient servant of the farmer. A careful examination of the contents of the stomachs of a large number of toads showed that 80 per cent. of their food consists of insects and other animals directly injurious to cultivated crops or in other ways obnoxious to man. It favors the protection of this humble little servant of man from wanton destruction by boys, and suggests that every gardener should aim to keep a colony of toads among his growing crops.

THE SOY BEAN.—This plant has been proved to be valuable in Kansas agriculture. It is a good drought resister, a soil renovator, and the beans are richer in protein than linseed meal. A much better ration can be made with the meal used with corn-meal or Kaffir corn-meal than with either of these alone, either for dairy cows or for growing or fattening pigs. Press Bulletin No 24, of the Kansas Experiment Station, Manhattan, gives the necessary information in regard to its culture and use.

THE POTATO STALK WEEVIL.—This is the subject of Bulletin 82, issued in January of this year, by the Kansas Station. It gives a very full account of the insect in its various life stages, with illustrations, the damage it causes, and the means of control and destruction.

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## Report of Vermont Experiment Station.

The Eleventh Annual Report of the Vermont Agricultural Experiment Station, for 1897-98 is one of unusual interest and importance. Of the 270 pages in which the report is embraced one half of that number is occupied with the report of the chemist and the dairy report, in both of which valuable conclusions appear to have been reached. The reports of the Botanists and Horticulturists are especially valuable, the former treating particularly on "Potato Diseases and Their Remedies," "Apple Diseases and Their Remedies," "The Parasitic Fungi of Vermont," and "Vermont Weeds;" while the latter relates principally to "Problems in Plum Pollination," "Hardiness of Plums," "Monograph of the Wayland Group of Plums" and "Notes on Lilies." The Board of Control, the officers of the station and the people of Vermont are to be congratulated for this admirable report, evidence of the ability of the officers, and the usefulness of the Station. Some notes from this report will appear elsewhere in this issue.

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## New Books.

HAWAII AND JAPAN.—Under the title of "Vacation Days in Hawaii and Japan," Charles M. Taylor, Jr., gives his observations and impressions, in travelling through these countries, in a volume of 360 pages, with over 100 illustrations. The volume is a very handsome one in all respects, and is published by George W. Jacobs & Co., of Philadelphia, at \$2.00. The personal and social customs and manners, and peculiarity of dress of the different classes of people, their dwellings and modes of life form a special feature of this book of travel. Mr. Taylor did not confine himself to the beaten routes of travel, but took special pains to visit the less frequented regions and thus see the foreigners where they are not influenced by intercourse with European or American strangers. As a result we have in these pages a basis of original statements of facts not found elsewhere. The whole is very interesting, and the engravings are appropriate, handsome and instructive.

CLIO.—This is an educational, historical game of cards, in relation to the history of this country. But a number of games can be played with the cards, some of which are called "System Games," and are for recreation exclusively. Published by the Clio Card Co., Minneapolis, Minn.

LANDSCAPE GARDENING as applied to Home Decorations. By Samuel N. Maynard. New York: John Wiley & Sons.

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## Western New York Horticultural Society.

The "Proceedings" of this Society for the present year, issued the latter part of March, appears as a handsome volume of 165 pages, containing the constitution and by-laws of the Society; the officers and the committees for the present year; all of the papers which were read, and the addresses delivered at the late meeting in January last; also the reports of the various committees; the questions brought before the Society at each session and the discussions in relation thereto; a full list of the membership; and a very excellent index. The efficient secretary, Mr. John Hall, is to be congratulated for the care and skill exercised in producing a volume so well executed.

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## Little Known Plants.

*The Botanical Magazine*, London, in February, among other plants noticed the following:

ELEAGNUS MACROPHYLLA, Thunberg. A hardy shrub, introduced from Japan by Mr. Maries. It has broad, oblong-ovate leaves, greenish flowers, and oblong red berries, the size of a sole. The whole plant is densely covered with flat, star-like scales.

CEANOTHUS INTEGERRIMUS, Hooker & Arnott. A native of the Sierra Nevada of California, with cordate, ovate, entire leaves, and many-flowered, much-branched inflorescence. It flowers annually in the arboretum at Kew.

EPILOBIUM OBCORDATUM, Asa Gray. As a rock-garden plant it has few rivals. It is a native of the Sierras of California, at an elevation of 8,000 to 11,000 feet. The flowers are of a delicate rose-color.



## Letter Box.

In this department we shall be pleased to answer any questions relating to Flowers, Vegetables and Plants, and to publish the experiences of our readers.

EDITORS.

### Dracæna Seed.

I have looked in vain among catalogues for dracæna seed. I have two fine old plants, but want to raise some small ones.  
Windsor, Ont.

H. T. W. E.

Dracæna seed is seldom or never offered by seedsmen in this country. The plants are propagated here by cuttings.

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### Goldfussia.

I have a plant called goldfussia. It is said to bear blue flowers. Will you please tell me if it is a hardy shrub, and what treatment it requires.  
Natchez, Miss.

S. D. G.

The goldfussias, or strobilanthes, are not hardy plants, being natives of the tropics. They need the protection of a greenhouse during the cold season, but may be planted out in summer.

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### Rose Hopper.

What will destroy the little white fly or insect whose motion is at first a hop, but when larger it flies. It is found on the under side of rose leaves in the garden as soon as the buds are formed, and sometimes on these too. Is it a thrips? The leaves turn brown and wither and the bush becomes unsightly.  
Sherwoods, N. Y.

H. C. H.

This insect is the rose hopper. Spraying the foliage with Paris green will diminish the number of the insects.

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### Canna Requirements.

I am delighted with your MAGAZINE—no amateur should be without it. Will you kindly tell me through the columns of same, the soil and treatment cannas require? I have Flamingo, Papa and Alsace. The edges and tips are dead, with the same dead, rusty spots through the leaves, and the plants have a shrunken appearance.  
Hillsboro, Texas.

MRS. C. C.

Cannas require a rich soil and plenty of water to do their best. Heat, moisture and available nutriment, all three in abundance, are the demands of cannas.

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### Spotted Calla.

Will you kindly inform me through the columns of the MAGAZINE how to treat a spotted calla to make it bloom. I have a bulb five years old which has never bloomed.  
Colfax, Ohio.

M. F. H.

Plant the calla in the garden this spring. In the fall take it up and dry it off and keep in dry sand in the house until spring. Then it can be potted and started in March or first of April, and afterwards be turned out into the garden. It is a summer blooming plant and needs to rest in winter. Your plant has been kept growing too constantly.

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### Chinese Sacred Lily.

Will you please inform me the best time to start a Chinese sacred lily and how to properly take care of it. What is the cause of a white foam running out of it? Do the bulbs have to be started in the dark?  
Red Lodge, Montana.

G. W. D.

In autumn, having procured a sound bulb of the Chinese sacred lily or narcissus, pot it in ordinary potting soil; keep moist, or more than moist, even quite wet, after the plant commences to grow. Or the bulb can be set among pebbles in a dish of water, the pebbles or little stones holding it upright and in place. The water should reach a little above the base of the bulb. If a white foam runs out of the bulb, as stated, it probably is because the bulb is decayed and worthless. It is not necessary to start the bulb in the dark.

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### Phrynium.—Winter Bloomers.

1—Some time ago a bulb of Phrynium variegatum was sent me, and all the directions sent were to "put it in a four-inch pot, large end up." It has been planted over a month and hasn't started yet. At first I had it in a cool closet where I start other bulbs; then I put it on a swinging shelf near stove-pipe, keeping it just damp. Will you tell me what to do for it?

2—I would be glad if you would kindly give me a list of bulbs and plants for flowers next winter, in a room with a south window, without a stove but receiving heat from other rooms. I have kept a good many plants there this last winter in splendid shape, except they would not blossom.  
Minneapolis, Minn.

MRS. P. F. H.

1—The bulb of phrynium will start better in a pretty warm place, or with a heat of 75° or 80°.

2—Procure Roman hyacinths and Paper White narcissus in autumn for earliest blooming. Dutch hyacinths and Polyanthus narcissus and Chinese sacred lily can follow, so, also, freesias, and other bulbs. Chinese primrose plants, if raised now from seeds, or purchased and grown on until winter, will give a great amount of bloom.

### Oxalis.—Amaryllis.

1—What treatment should I give Oxalis floribunda rosea that it may bloom in winter?

2—I have a Johnsoni amaryllis that has not blossomed in four seasons. Would it be possible to have this amaryllis blossom two or three times in one year?  
Rensselaer Co., N. Y.

SARA M. LOWE.

1—If the bulbs have been growing for some time together, the oxalis can be allowed to go nearly dry during the hot weather, and in September separate them and repot in fresh soil and start for a new growth.

2—Probably the amaryllis has not been dried off, as it should be. It requires three or four months rest during late autumn and winter. It will do well to bloom once each year.

++

### Rhododendrons.—Roses.—Carnations.

1—How should rhododendrons, that bloomed last Easter, be treated as to temperature, location (whether shady or sunny), and watering? Is it better to set them out doors after blooming? Will they bloom again this year?

2—At what time will one-year American Beauty roses bloom, if bought now and without buds, when in a greenhouse with temperature of 50° at night and about 75° during the day? Also the same of dwarf carnations?  
Brooklyn, N. Y.

O. S.

1—The plants better be set outside in a place where they will be shaded during the warmest portion of the day. Give the soil all the water the plants can use, and during dry weather syringe the foliage every day. The plants will not bloom again until next year.

2—As to roses and carnations kept in a greenhouse, it may be said that there should be a constant effort to keep down the temperature during the day, especially on bright, warm days. Give ventilation when it can be done without subjecting the plants to currents of cold air, and keep water on the floor and walks of the house. Bloom will follow good healthy growth.

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### Asparagus.—Strawberry Bed.—Rose Bed.—Quack Grass.

1—Will you please tell me how to treat my asparagus bed; I set out the two-year-old roots last spring, and covered the bed last fall with manure,—when shall I remove it? How shall I apply salt, and how much for 100 roots?

2—When is the best time to make a strawberry bed, and what is the best variety for small bed for family use?

3—How is the best way to prepare the earth for a rose bed?

4—Will you tell me how to get rid of quack grass?

M. C.

Canandaigua, N. Y.

1—The manure should be very lightly forked in early in spring, but if not done early it is better to let it lie on the surface. Salt may be of some special benefit to asparagus, at any rate it does not hurt it, and there is an opinion prevalent that it is a proper fertilizer for asparagus. But good asparagus can be raised without it. It can be applied at the rate of a pound to the square yard, or even in a greater quantity.

2—The season for strawberry planting in this region in spring is from the middle of April to the middle of May; in autumn, the month of September. For family use we advise the Echo as one of the most valuable of all the varieties.

3—Make it rich with old, well decayed manure, dug in deep.

4—A piece of ground infested with quack grass perhaps may never be wholly freed from it, but the best way to keep it under is to plant the ground with crops that may be constantly cultivated or hoed, and by this means keeping the grass from growing and increasing.

++

### Pear Blight.—Asparagus.—Blush Rose.

1—My Bartlett pear, five years old, seems blighted to death. If the tree is cut down will new shoots start from the roots? Would spraying with brine cure blight?

2—Authorities say "One-year-old asparagus plants make the best bed," and "Male plants are best." Which is better,—to make the permanent bed of one-year plants and next year pull up the females, or wait two years and select only male plants?

3—G. G. S. asks for particular name of "blush rose." I am of the opinion that "Blush rose" is its only name. Surely everyone knows it! The sweetest rose that grows. Not Cinnamon; not Hundred-leaved. Blush!! It has one fault here,—its blossoms blight, and my question is, How to cure the blight?

I wish all correspondents would mention their locality,—State, at least,—as conditions vary so one would like to have some way of judging whether advice can be followed in his own home.

L. J. E.

Griggsville, Ill.

1—If the tree is dead from blight, no more should be expected of it. Dig it out and burn it. Spraying with brine will not cure blight.

2—Use one or two year old plants for setting an asparagus bed, and without reference to the plants being male or female. No practical planter considers this point, and he would have a precious tiresome time if he did, for most of the plants are perfect.

3—By blighting of the blossoms we suppose it is meant that they fail to open. Probably because too many buds are allowed to remain on the bush, and the annual manuring is not kept up, and the plants are allowed to decline in vigor.



### Seeds to Name.—Tuberose.—Calceolaria.—Cineraria.—White Geranium.

1—I send a few seeds and part of a seed pod; can you through the Letter Box of VICKS MAGAZINE, of which I am a subscriber, give me some information as to name of plant, care, and nature. All I know of it is that it is a perennial and bears large yellow flowers. Seed pod was about five inches long.

2—Would also like to know if a tuberose bulb blooms more than once.

3—Can plants of calceolaria and cineraria be kept over; can they be grown from cuttings?

4—Is there a white geranium that will bloom as freely in the winter as the scarlet?

Persia, Iowa.

MRS. G. A. A.

1—The seeds apparently are those of *Tecoma radicans*, called also *Bignonia radicans*, and Trumpet Flower, and Trumpet Creeper. A valuable hardy climber.

2—A tuberose bulb blooms but once.

3—Plants of calceolaria and cineraria can be kept over, but are never so good as the first season of bloom. They can be propagated by cuttings.

4—For an excellent free blooming variety of white geranium try Mrs. G. M. Gaar. It will prove satisfactory.

++

### Greenhouse Work.

I have long wished to care for a greenhouse full of plants. Can you tell me what it would cost to build and start one,—not too large to begin with? What size would you advise, cost of same, and how heated? What kind of plants would do best, and how many would be required to start it? I have an east room on the second floor, 20x10 feet, with an east window; could I heat it with an oil stove and use it to begin with? Our dining room is a south room, with a double window, but that seems to me too dusty. I will have to work my way up for I do not have much capital to begin with.

I have a southern jasmine which has never bloomed; it was given to me by a lady friend who brought it from St. Augustine, Fla. It has yellow, trumpet-shaped flowers; it has a large pot to grow in, which seems full of roots. Can you tell me what to do to make it bloom?

T. T.

North Wilmington, Pa.

The room with an east window might probably be well adapted to a considerable variety of plants, and it would be well to see how well plants could be raised there before undertaking a greenhouse. One has to be well prepared with plenty of experience in plant growing and a large fund of information about them, besides a fair cash capital, and withal an immense amount of energy and perseverance to make a success of it as a business. We advise T. T. to visit a number of the plant establishments in Philadelphia or some other city, and in that way see and learn how things there are managed before attempting any building, or even deciding upon plant growing as a business. The best equipment for the business would be several years' experience as a worker and learner.

++

### Cyclamen.—Cobœa.—Iris.

1—About the last of January I bought a cyclamen with six buds and about ten leaves on it; myself and friends watched with pleasure the opening of the pretty crimson flowers and the lengthening of the stems. It was in bloom a long time and now I wish to know what to do with it; I have removed two of the leaves and the others have not grown much, if any, since I got it. I think I never saw a cyclamen until this winter,—that one was white with lavender eye. I do not know whether to look for any more growth of leaves or blossoms this spring. Should it be put in the ground by and by, taken out of the pot and allowed to rest in a paper bag all summer, or what?

2—In ordering seeds I included an order for cobœa, and asked the color of blossoms. I do not know anything about that vine except what I have seen in your publications, and they say nothing of the color of the flowers.

3—I have not had very good success with my iris for a few years; I transplanted it last year, and it is now on the lawn, near a high bank wall. There is near the house a little hollow where it is always wet; the water comes from a spring and so is not stagnant; cowslips grow nicely there and always cheer me in the spring with their bright golden flowers. Would that be a good place for iris? It is open on one side, but shaded on another with apple trees. It gets the morning sun, but is shaded in the afternoon.

D. P. D.

Shattuckville, Mass.

1—The cyclamen will not make any more growth this spring. The pot can be set in a shady place in the garden for the summer, and enough water given to keep the soil from drying out. The soil will dry out less rapidly if the pot is plunged in the earth up to its rim, but in this case there is more danger of its being overlooked, forgotten, and left without enough moisture. Very much water is not wanted, but the soil should not be allowed to go quite dry. Early in September the plant can be removed from the pot, and without disturbing the roots too much, some of the soil can be taken away, and then repot the bulb with fresh, rich soil, and water it and encourage a fresh growth.

2—The flowers of cobœa are first greenish and then change to a deep lavender color, or almost blue.

3—The moist spot of ground will be found admirably adapted to the iris.

++

WE WISH to call special attention to the Grand Half-Century Dahlia offer on 4th cover page. The choicest varieties at the lowest price.

### MISTAKES IN TREE PLANTING.

#### Too much Shade about the House.

THE present example is one not infrequently met in a more or less aggravated form. Its fault is that of planting trees so thickly about the house that their presence in time serves to make the house dreary, if not outrightly unhealthy, when just the opposite results should be sought in the planting. The process of reasoning which leads planters into such errors is not hard to discover. While conceding the

value of trees, both for shade and shelter, yet we must not overlook the fact that some sunshine, in and about our dwellings, also is indispensable to comfort and health. Why should trees be planted so thickly as to shut out the sunshine, and in part the cool breezes of summer, when the arranging can be done for securing ample shade at a season when the shade is wanted, and yet ample sunshine with space for cool summer breezes when these are required for health and comfort?

Then let it be mentioned that no greater mistake can be made than to suppose that close, dense shade is more comfortable than that which is more open. As if a heavy forest was cooler and pleasanter than is a

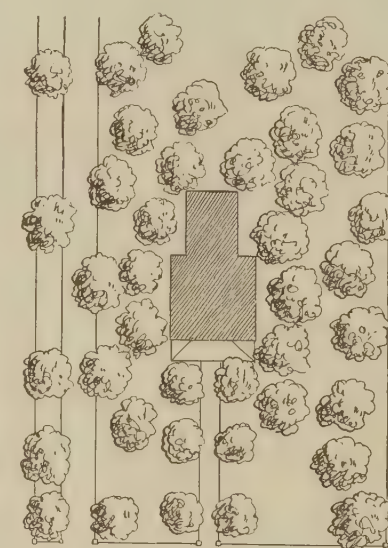


FIGURE 1—HOUSE DARKENED UNHEALTHFULLY BY TOO MUCH SHADE.

well-wooded park in which shady and open spaces are interspersed. True, the dense forest shuts out the sun, but it likewise shuts out the fanning breezes, and holds a stifling atmosphere instead. The principle may even apply to individual trees; a close-headed sycamore, maple, linden, or horse chestnut never imparts such a sense of comfort in shade as does a tree of more open foliage. One has but to mention the walnut as representative of perhaps the highest type of a tree suited to imparting delightful shade. Not only is there openness of head, but the fine leafage is of a kind to offer the least resistance to the stirring atmosphere while it effectually breaks the sun's rays.

In the annexed engravings, figure 1 shows the house too closely surrounded with large shade trees for either comfort or health. Not even grass can grow near the house. In the course of years, while the shade has increased, the grass has died out, indicating the sense of decay and death which prevails around this home.

The other engraving, figure 2, shows how the same place might be planted for imparting ample shade and shelter, yet affording free access of sunshine and light breezes to the house. It represents the park or landscape idea, in contrast with the forest idea of figure 1. The area that is free from trees is as great as that occupied by them, thus admitting an abundance of sunshine, promoting not only health, but providing for a beautiful lawn. The necessary shelter for the house is provided for in the mass of evergreens to the left, the direction of prevailing winds. This class of trees, especially the Norway spruce, harmonize perfectly with the idea here advanced, imparting, as they do, maximum shelter with minimum shade.

Another feature of figure 2 which should not be overlooked is the presence of hardy flowering plants and shrubs. It is easy to make a selection that will give a steady yield of bloom during the season, adding to the beauty of the scene.

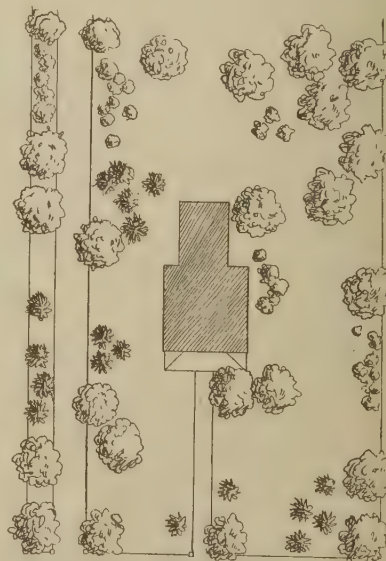


FIGURE 2—THE SAME HOME WITH BOTH SHADE AND SUN PROVIDED.



### SOME QUESTIONS ASKED And Answered at the Meeting of the W. N. Y. Horticultural Society.

*What can be done with a lot of apple trees which bear so heavily that the tops are all broken off clear to the body?*

MR. ZIMMERMAN—He is a poor orchardist who allows his trees to bear so heavily as to break down under the load. Nothing is gained by such a crop and very much can be lost, often the trees. It *pays* to thin out, when you consider that it requires vital nourishment to perfect the seed whether the apple is large or small. The tree will be less exhausted with a moderate crop of large fruit than with a large crop of poor fruit. Pears will bear every year instead of every other year, if allowed only a moderate crop.

*Is there a law forbidding spraying apples when in full bloom?*

Vice-pres. WILLARD—There is; you have no business to kill your neighbor's honey bees.

Prof. SLINGERLAND—Last year I said I did not think there was need of a law in this State to prevent men from spraying trees in bloom. I now think the bee men are right. There is no earthly reason why you cannot kill as many fungous and insect enemies just before and just after the tree blooms, as when the trees are in blossom, because the enemies are out before the blossoms open. You cannot get the spray in the blossoms before the petals fall. There is no question about the killing of the bees. Chemists have analyzed them. They carry the poison home and kill the brood.

*Will gooseberries do well in a dense shade?*

MR. C. M. HOOKER—I think they will do well in the shade of a building and fairly well

in the shade of a tree, if not too near it. They can stand moderate shade if they get plenty of moisture and some light.

*What is the most expeditious and certain way of destroying the cabbage louse?*

MR. ZIMMERMAN—Hot water from the sprinkling pot at 130° Fahrenheit.

*What remedy is there for the currant borer?*

MR. ZIMMERMAN—There are two currant borers, the imported and the native. Eggs are laid in June. Remedy, cut out and burn all hollow stems.

*In raising the grade of a piece of ground two or three feet, or any other height, is it necessary to wall about, or box around, large trees; or will it be harmless to them to fill the soil up to the bolls; and are any facts on record in relation to the subject?*

MR. C. D. ZIMMERMAN—It is almost sure death to fill around a tree two to three feet above the collar, especially in soils not underdrained. Boxing is beneficial, but, as a rule, large trees soon die. If the tree is valuable enough to incur the expense it is best to raise it to the grade. Elm trees survive filling better than most other shade trees.

Prof. ROBERTS—Some trees at Cornell University were boxed this way and some were not. Those that were not boxed are dying. By all means box them.

*When the shade of the house is the prime consideration, what variety or varieties of trees should be selected to plant near new residences, rapid growth being a point of high value?*

MR. C. D. ZIMMERMAN—The Carolina poplar will give the desired shade in less time than other trees known in this climate. In 1872 I planted two on the corner of Linwood and Summer streets, Buffalo, which now measure twelve feet in circumference three feet above the ground; height, seventy-five feet; spread of branches nearly 100 feet. No suckers have ever appeared. The shade is dense, though not so dense as from horse chestnut. Thrives in soil where no other tree would grow. Another, planted eight years ago in the stiffest of red clay, measures four feet seven inches in circumference, three feet above ground; spread of branches forty feet; height forty-five feet. I would recommend the Carolina poplar for general planting next to the American elm.

*What maple is best for the roadside—the Norway or sugar; which is the most rapid grower?*

Prof. ROBERTS—Until we get good solid roads we do not want any shade trees.

MR. HOOKER—I think the sugar maple is a grand tree. There are, in my opinion, very few to surpass it; it is the finest of our shade trees. The American elm is another.

MR. BELL—You cannot have good roads and keep the sun and air away from them.

*How old must a prune tree be before it comes into bearing?*

MR. PILLOW—Five years from the graft. I have had them bear in two or three years, but five years is about the time, I think.

*Will the Loudon raspberry surpass the Cuthbert, and is it better in all respects and liked by canners?*

Vice-pres. WILLARD—I have been experimenting a little and like it very well indeed. Have not tested it for canning. At all events it will serve to prolong the raspberry season.

*What methods of cultivation and pruning are best adapted to the black and the red raspberries?*

MR. W. H. PILLOW was called upon by the president to give his opinion. He said: Cultivating in a large way for market necessarily differs from the made of cultivation where a few are kept for home use. I should prepare the ground the fall before by plowing late, just before winter sets in. Make the ground as rich with manure as you can. At planting time have the ground in as good condition as you would for corn or potatoes. I should plant black caps in the row seven or eight feet apart, and perhaps four feet apart in the row. This is for cultivation one way, which I have usually done. They should be further apart in the row if you wish to cultivate both ways, but whichever plan you adopt keep the soil well cultivated from early spring to middle of August, allowing neither weeds nor grass to grow either in the row or between. After that time whatever weeds start may be allowed to grow until the next spring, when the same plan of cultivation should be again followed. During the growing season we "top" the young canes by pinching off the tender tops about twenty to twenty-four inches from the ground, causing the main stem to become stockier and laterals to shoot out on all sides. The following spring these are cut back to whatever height is desired, usually three to four feet high; and in the case of some strong growing soils, five feet. This is after plants have been set two or three years and come into bearing; usually the plants will not be two feet high at one year from setting. In the case of red raspberries I should set the rows about six feet apart, and the plants in the row two and one-half to three feet apart, cultivating only one way, and in the same thorough manner as recommended for black caps. I do not top my red raspberries during the growing season, but let them grow at will, and cut back in the spring to four or five feet high, or shorter if plants are young or of feeble growth. Leave about six canes to each hill or space of two and one-half feet to three feet in the row, as I do not care if they scatter along the row some, instead of being in a compact hill. I grow only the Cuthbert, which sustain themselves without staking or tying.

\* \*

NEW SHADE-TREE PEST.—That beautiful and graceful shade-tree, the white birch, which decorates so many parks and home lawns, has been attacked by a very destructive insect enemy in our State. For several years past some of the finest specimens of this tree in Buffalo's parks have died each year. It is now known that the cause was a small, slender beetle, whose grub makes torturous tunnels just beneath the bark. To scientists the insect is known as *Agrilus anxius*, but we may well speak of it as the birch Agrilus. \* \* \* I have, as yet, no better suggestion to offer than to cut down and burn immediately, especially before May in the spring, all trees found dying; I doubt if any protective wash for the trees will be found practicable and effective.—Prof. M. V. Slingerland, before the W. N. Y. Hort. Society.

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## LILY OF THE VALLEY.

An angel from the Heavenly choir  
Came down to earth one day,  
In search of timbre, harp or lyre,  
Whereon her loving hands might play  
Sweet symphonies, to all unknown,  
For Him who sits upon the throne.

O'er mountain peaks the snows were white,  
But in a valley low she found  
A flower that trembled with delight,  
And from its bell a silver sound  
Came floating on the vibrant air,  
O'er beds of lilies swinging there.

She caught with joy the wondrous prize,  
And hid it 'neath her shining wing,  
Ere homeward turning to the skies  
She blessed the lilies of the spring,  
Whose silver music all may hear  
That listen with the spirit ear.

Towanda, Pa.

—RUTH RAYMOND.

\* \*

## NOTES ON LILIES.

Mr. F. A. Waugh, Horticulturist, of the Vermont Experiment Station, has been observing the numerous species and varieties of the lily in the collection of Mr. F. A. Horsford of Charlotte, Vermont, probably the finest collection of the kind in this country. The collection was first begun by Mr. C. G. Pringle, but continued absence from home obliged him to dispose of it and it came into the hands of Mr. Horsford. Under the title "Notes on Lilies," Mr. Waugh gives some of the results of his observations, and also makes a scientific classification of the fifty-four species examined:

It may be said, in passing, that the climate of Vermont and the soil of Mr. Horsford's nurseries seem especially well suited to a large number of lilies. This makes the opportunity for study still more favorable. Besides the freedom of his collection, which Mr. Horsford has so kindly given, we have to thank him for many personal favors, and for much solicitous interest in the collection of information.

The botanist, Mr. L. R. Jones, contributes the following interesting note:

The lily blight is the most serious fungous disease troubling lilies in America. While some species are more troublesome than others, none seem entirely to escape the blight. The fungus develops most destructively during moist periods, doing little harm in dry seasons like the present one. It may attack any part of the plant from bulb to flower, but is most conspicuous upon the leaves, where, by killing the tissues, it causes reddish or rusty brown spots. These are small at first but increase in size more or less rapidly, often involving the entire leaf, and the plant is thus seriously weakened or entirely destroyed. Mr. Horsford has found bordeaux mixture an effective preventive of the blight, and sprays all his lilies with this mixture several times during the summer, beginning early in the season before the disease appears.

This blight, due to a fungus (*Botrytis*) should not be confused with the Bermuda lily disease, (see Div. Veg. Phys. and Path., U. S. Dept. Agr., Bul. 14), or with the Japanese lily bulb disease (see notes by G. Massee in *Garden and Forest*, 10, Oct. 1897, p. 414).

All of the fifty-four species in Mr. Waugh's classified list are arranged under six divisions, or sub-genera, and follow the monograph of Mr. J. G. Baker, "which," the writer says, "though certainly admirable in every particular is quite inadequate to the needs of American botanical and horticultural students. \* \* \* Steps have already been taken in the department of horticulture of this station, looking toward the early publication of an English translation of this important work; but that will be only one step in the desired direction. The entire genus should be exhaustively studied under American conditions, and a new American monograph of the genus would certainly be a very important contribution to our horticultural botany. It would be very gratifying to us if we could announce such a monograph at the present time. As we do not feel justified in doing so, however, we present below a few notes upon

those species which we have seen in blossom at Charlotte, hoping that this material may be useful to us or someone else in the further study of the genus." The notes of Mr. Waugh are mostly horticultural, and though brief for each species, the whole covers considerable space. They will prove of special interest to florists and nurserymen, and those making collections of lilies. The following is a list of those kinds mentioned as succeeding well at Charlotte, Vermont:

*Longiflorum*, *candidum*, *Krameri*, *Japonicum*, *Brownii*, *Nepalense*, *Parryi*, *Washingtonianum*, *tigrinum*, *auratum*, *speciosum*, *Henryi*, *Philadelphicum*, *concolor*, *bulbiferum*, *croceum*, *elegans*, *pardalinum*, *Wallacei*, *Canadense*, *Grayi*, *superbum*, *Martagon*, *Columbianum*, *Humboldtii*, *Hansonii*, *monadelphum*, *testaceum*, *chalcedonicum*, *pomponium*, *tenuifolium*.

## Extracts from notes:

*L. LONGIFLORUM*—In outdoor culture it is best to take the bulbs up in the fall, clean them and reset. This treatment seems to retard them. Otherwise they come up too early in the spring, and are killed by frost.

*L. CANDIDUM*, THE MADONNA LILY—When grown in the garden it should be left undisturbed when once established.

*L. KRAMERI*—This is a beautiful large lily with delicately shaded pink petals. It is one of the prettiest for garden culture, and succeeds very well indeed.

*L. BROWNII*—One of the best and most successful lilies grown here.

*L. PARRYI*—This pretty California species is favorably reported from several points in New England, and seems to succeed here fairly well after it is once established, though it is a trifle hard to start.

*L. WASHINGTONIANUM*—Has generally succeeded here. One of the first to blossom in spring.

*L. AURATUM*—This well-known species is often said to be the queen of the lilies. It succeeds well nearly everywhere, but is usually found to be short-lived. It may be preserved longer, however, perhaps indefinitely, by being taken up occasionally, the bulbs cleaned of dead scales and slugs and put back in the spring.

*L. SPECIOSUM*—One of the finest species in cultivation. Hardy and thrifty. Easily grown and propagated.

*L. HENRYI*—This species has been introduced within the last few years, and meets nothing but praise everywhere. It is one of the healthiest, strongest growing and finest lilies known, and propagates with remarkable ease, so that its present rarity and high price seem likely soon to give way to plenty and moderate cost. \* \* \* This species is to be specially recommended for garden planting to everyone who can afford to pay one or two dollars a bulb.

*L. PHILADELPHICUM*—The species is, of course, hardy, propagates readily, and it may be properly recommended for more general use in gardens, wherever the soil is light and well drained.

*L. CONCOLOR*—This is highly desirable for garden planting.

*L. ELEGANS*—Is a fine garden species, from which a large number of good horticultural varieties have been developed. Nearly all succeed here.

*L. WALLACEI*—Grows and propagates freely.

*L. CANADENSE*—Is suitable for extensive garden planting.

*L. GRAYI*—Strong and a good grower, and likes high care and plenty of manure.

*L. PARDALINUM*—Succeeds here as well as any of the California lilies, most of which are not extremely thrifty.

*L. HUMBOLDTII*—A very showy plant. To be recommended for garden planting.

*L. HANSONII*—A fine Japanese species, one of the strongest and healthiest, the same plants having bloomed six years in succession here. Still, it is discouraging when first planted, often not coming up at all till the second year.

*L. MONADRLPHUM*—Does well in the garden after the first year. It seldom comes up the first year after planting.

*L. TESTACEUM*—This is very desirable for garden planting.

*L. CHALCEDONICUM*—One of the standard lilies for garden planting. A good, healthy plant; though it does not always bloom, or even appear above the ground, the first year.

*L. POMPONIUM*—A fine vigorous species from Southern Europe, which does well here.

*L. TENUIFOLIUM*—The Siberian coral lily. One of the very finest small, garden lilies. Distinct, thrifty and healthy.



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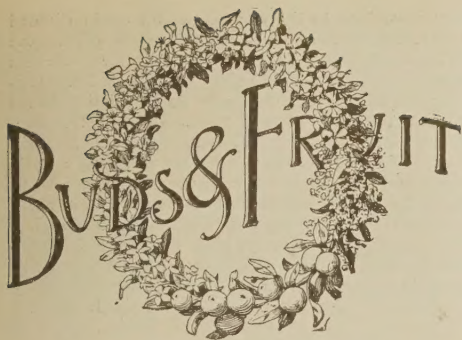
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Plant firmly.  
Mulch the bush fruits.  
Set gladioli in succession.  
A weedless garden this year.  
Drouth makes coarse radishes.  
It's the poor lawn that gets mossy.  
Lilies say "no" to frequent removal.  
Seedlings as a rule are not thinned soon enough.

Paint the tree scars to prevent trunk hollow-ness and premature death.

Spare coldframes set on the strawberry bed will afford a treat of earlier fruit.

No plant should be allowed to go to seed unless seed is the object of its culture.

To set gladioli among evergreen trees and shrubs is no mistake—the effect is charming.

"Low down" business is what a Missouri fruit grower calls the digging out of root borers from apple trees.

There is a deliciousness about vegetables that are brought direct from garden to kitchen, which even a city millionaire's riches cannot quite command.

Sun for window plants is the proper prescription earlier in the season, but when May-day arrives, or even earlier, some shade is

desirable. Take the case of plants in flower, the bloom will pass away far more rapidly in the sun, than if some shade is provided.

**Diet Reform.** One of the greatest reforms needed by the human race is that of turning from the excessive eating of meat to the more delicate and wholesome food of the garden. In this work the seedsman and nurseryman—not overlooking the horticultural journal—take a chief part.

Many a late hotbed has been ruined as to its contents, by letting the green plant-louse take possession. This pest multiplies with great rapidity as the season advances, if once it gets a start. A simple remedy is to lay tobacco stems against the sides of the frame in the bed and keep them well moistened. The presence of the wet stems will kill every plant-louse in the bed.—G. Ardner.

**Be master of the seed situation.** A clean garden not only adds to the crop, but it adds to the pleasure of gardening, and we should aim to get all the joy we can out of our work. How anyone can, in flower gardening, tolerate a single weed is beyond the writer's comprehension. The flowers and plants are grown purely for beauty, and yet one weed mars the picture. Some persons have not yet learned the lesson that it is easier to keep a garden clean, than half clean of weeds. True, the clean system, requires attention oftener, but there is not a fraction of the work at any one time. Clean gardening is pleasure gardening.

**Earliness.** A good gardener plans for early products, and if he can be a little in advance of every neighbor, he takes no slight pride in the achievement. Of course there is a more substantial aim in mind. The garden is looked to for food supplies for the table, or for purse income in the case of marketing, and a week



EARTH SHELTER FOR TENDER THINGS.

gained in earliness of the crop counts for just so much. One easy way of gaining a little advance for earliness, especially of heat-lovers, like beans, cucumbers and that class, is to build a soil shelter, as shown in the accompanying engraving. This consists merely of drawing up a ridge of earth to the north or windward side of the row, as protection on the one hand from raw winds, and on the other to catch the sun-heat. The row can be thrown up with a small plow, care being taken not to have the soil fall over and cover the seed too deeply.

**Reliability of Pears.** Besides bearing more regularly than apples, pear trees also bear when younger, on an average,—a great point in their favor. They are as hardy as apples and require no more care; indeed pears do not need as rich a soil as apples, and if neglect for any reason should happen, they will give a better account through it all than any other tree fruit. Pears, like other fruit, need a drained soil. Among other varieties that can be recommended for general culture, I would include old stand-bys—Bartlett, Duchess, Lawrence, Clapp's Favorite, Seckel, Flemish Beauty, Keiffer, Vicar, Anjou and Louise Bonne. The last named has given me unequalled satisfaction, but as it is somewhat subject to blight, should be recommended with some caution for general use. Where it succeeds, there is no variety that is more prolific, delicious and satisfactory.—Old Nurseryman.

\* \*

#### LESSONS DRAWN FROM THE ACRE OF POTATOES.

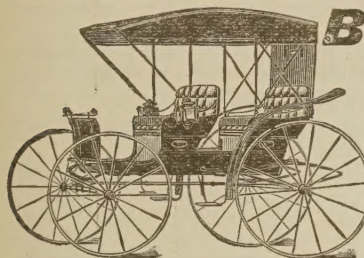
In the "Third Report on Potato Culture," from Cornell, are the following deductions:

Seed should not be cut for any considerable period before planting. If it becomes necessary to delay planting for some considerable time after potatoes are cut, the cut pieces should be dusted with plaster and spread out in a moderately moist, cool place. At least they should not be allowed to heat, neither must they be allowed to become dry. If planting is done very early in the spring, the ridges may be permitted to remain for ten days to two weeks before harrowing down. If planting is done somewhat late the ridges should be harrowed within one week after planting. In the case of the early planting there is usually enough moisture present so that the ridging may temporarily prove a benefit by enabling the soil to become warm. In the case of late planting, all the moisture should be conserved, and this is best done by leveling the ridges. Where the soil is naturally too wet, the ridges may be beneficial, in that they hasten evaporation and the consequent drying of the soil.

\* \*

#### ALFALFA IN TEXAS

A Texas correspondent writes: "The alfalfa was sowed, and last winter it was cut as it was needed for plantation use, as it could not be cured in winter. We generally have four crops from it per year, besides this cutting for use. If the season is dry, and the alfalfa dies out any, with the August rains self-sown seeds come up and insure a stand. It yields heavily, and is one of our best crops. I have 150 acres in alfalfa."



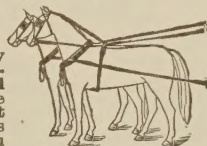
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VICK'S SEEDS IN INDIA.

You will probably be interested in knowing the result of the garden seeds you so kindly sent me last year. Our principal vegetable season is from October to March; though melons and squashes come later. Your seeds did excellently—cabbage, cauliflower, beets, radishes, lettuce, etc., etc., fruited very well, indeed. The Black Seeded Simpson lettuce was particularly noticeable for its excellent flavor and crispness. The same may be said of all the kinds of radishes. Cauliflower excellent. The onions did not come up very well; possibly this was due to the method of irrigation, but what did grow were of fine quality. The seeds were a decided success. I still have a great many vegetables in the garden, though our hot weather is near, when few things grow.

The 200 or more boys of the orphanage have greatly appreciated the garden. They have been in much better health than previously. My family and I have also greatly enjoyed the vegetables. Here in the interior of India it is difficult to get suitable food. We greatly appreciate your favor in sending us the excellent seeds, and wish to thank you very heartily indeed. The celery is not quite ready for use, but looks fine. Melons, squashes, etc., are being planted now. In May the thermometer reaches about 115° to 126° in the shade, and few things grow. When the rains begin in June some kinds of vegetables may be planted, but October, or possibly September, is when the special vegetable season begins. Again thanking you, I remain, Yours sincerely, J. O. DENNING.

Narsinghpur, India, March 7, 1899.

PREPARED SOIL.

In some out-of-the-way corner, not too near the house, and yet not very far away, have made an excavation a foot deep and a few feet square. If in grass ground have the sods in a heap by themselves and the soil in another heap. Put a layer of stable manure in the bottom of the excavation and over it a layer of sods (cut fine) and earth mixed. Here throw the waste from the kitchen, vegetable parings, bean and pea pods, weeds from the garden, clippings from the lawn, faded bouquets, rhubarb leaves; also leaves from the forest, if convenient to get. Cover this collection of waste, occasionally, with soil, and water the mass with wash suds, chamber slops and dish-water, adding dry soil in sufficient quantities to take up the excess of moisture. Have the mass forked over several times during the summer. Do not add to it after the first of September, but start another heap. After a few days of dry weather, in the latter part of September, sift the soil in the first heap and you will have an ideal compost in which to pot your winter garden plants.

If the second heap gets rotted down before cold weather, sift and mix with one part sand to two parts soil, and you have something your winter bulbs will enjoy. It isn't much work to prepare the compost. The waste and the weeds must go somewhere. The wash and waste water must be disposed of, and it is better to have a place where it can be turned to good account than to let it all go down the sink drain, to breed sewer gas, or into an open drain to breed flies and foul smells, if not diphtheria and typhoid.

MY KITCHEN WINDOW.

Nine-tenths of us women have to be busy in our kitchens, even if we are not there all day, and the washing dishes, over and over, is monotonous, and enough to make us candidates for an insane asylum. If there is anything to lighten the burden, we ought to have it, and here is my remedy. A sink close to the window, and a garden outside. Perhaps working in the open air helps, so do the bright colors soothe the tired brain, and make pleasant thoughts. But, what have you in sight that will make washing that pile of dirty dishes a blissful task? Of course nature has provided just the right flower for encouragement of workers by the side of the old sink, the dear little Phlox Drummondii. Now, the meaning of the word phlox is flame, and the intense, pure colors, of this little darling, suggested the name. They are generous, too, and will so cover the bed with bloom that one hardly notices the leaves. A good companion is portulaca. If it has a nice, warm sun, the bright colors will delight your heart. An ageratum in the corner will give a blue, and a marigold, the yellow to make your beauty spot perfect. A length of wire netting stretched across the back of the bed will de-

light the sweet peas, that will climb, and cling, and throw out their breezy blossoms, which always seem to be trying to play a tune. Sweet alyssum and lemon verbena will make a very pretty garden in sight of your kitchen window. The last plant is useful as well as beautiful, its light green leaves being very fragrant, and pressed to the nose will relieve nervous headache. It is a happy woman that has a sunny window in her kitchen, for she can have "a bit of green" all through the winter. Have a box fitted to the sill and plant in it curled parsley in the spring. The seeds germinate very slowly, and it hurries them considerably to soak for twenty-four hours in hot water before putting in the earth. Remove to the kitchen window in the fall. The leaves are really very beautiful, almost too pretty to eat, but with a little salt and a nice piece of bread and butter, they are a good relish. The leaves flavor gravies and soups, and stuffing for chickens. This spring, instead of putting all your seeds and plants in the front yard, where many a day passes when you are too busy and tired to see them, put them near the kitchen windows, where they will rest eyes and nerves.

A. L.

GIVE THE SEEDLINGS ROOM.

When sowing the seeds of annuals in the open ground it is better to sow rather thickly to allow for unfavorable conditions that may prevent part of them germinating, also for loss of the young plants. Many people, however, do not thin their seedlings at all, or else leave them vastly too thick and crowded. Even when seedlings are transplanted, there is the same disposition to plant too thickly, the ground looking so bare and unpromising when the tiny plants are a few inches apart that it takes considerable courage to pluck out, perhaps nine-tenths of the plants, yet in the majority of cases this is just what ought to be done. Until one has seen a plant growing, with an abundant room to develop root and branch, no idea can be had of the natural grace and beauty of our most common annuals. This was impressed upon me a few years ago, by a single plant of the Shirley poppy. A seed chanced to be scattered far outside the poppy bed, but the soil where it lodged was rich and the plant was allowed to grow. In the beds where the plants grew rather thickly they sent up tall, slender stems, with, perhaps, two or three branches bearing flowers. They all bloomed at about the same time, a blaze of brilliant color and beautiful without doubt, but the plant that had room to grow according to nature's training, put out a whorl of

branches close to the ground, which again divided into branchlets. From the center of the plant arose a flower-crowned stalk, followed by more flowers upon branches, so that the blooming period was prolonged a number of weeks after its crowded relatives showed nothing but seed pods. In good, rich soil, nearly all annuals will do better, if given at least six inches of room. When small, they will look a little lonesome, but it will not take them many weeks to cover the ground and jostle one another. They will not grow so tall as they would if more crowded, but will be much more stocky; both flowers and foliage will be finer in form and color, and the plant will grow in a graceful, because natural shape.

I. MCR.

WHY NOT GERANIUMS?

How often we see the geranium slightly mentioned, and other and newer plants recommended to the amateur. But from experience I would warn all who live in localities where the propagation of flowers is difficult, not to discard the good reliable geranium. It is not necessary to stick to the old shy blooming sorts, for there are new ones that would satisfy the most fastidious. Suppose you do not depend on blossoms for your winter beauty, but get fancy-leaved varieties. I have in mind a sunny window, with a large, shapely, rose-scented geranium in the center. Around this is grouped some varieties which make the window a thing of beauty at all times. There is dainty Mrs. Pollock, with her many colored leaves, always attracting admiration; bright, sunny Circle of Gold; dark, short-jointed Zulu, with its chocolate zone; Happy Thought, with the sunshine garnered in the heart of each bright green leaf; Madame Salleron, with snowy-edged leaves, and Crystal Palace Gem, with the yellow foliage blotched with dark green in the center. Among these stand four plain-leaved geraniums, with large thrifty branches and healthy foliage. First, of course, is La Favorite, the lovely double white; then a dark velvety double red, called the Rose, because its individual florets are as double as a rose. It is grand. Next comes Miss E. G. Hill, magnificent in size and of a lovely rich salmon-pink—a free bloomer, indeed. Last, the new variety, Madame Bruant, with delicately penciled blossoms—white, edged and veined with carmine. Now, in such a window, with proper care, a lovely buttonhole bouquet may be gathered any day in the year, or a tasteful garland for the casket of one passed away. There is beauty, variety, hardiness and fragrance combined. And some of

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There are many others, of course, but these are satisfactory in the window of any amateur. EVAN.

\*\*

POTATO SCAB.

The use of formalin as a disinfectant of the potato scab was first tried by Arthur at the Indiana Experiment Station, and results were published in 1897. Last year the Vermont Experiment Station made the trial in connection with corrosive sublimate on the Early Ohio variety, and the result confirmed the trial made at the Indiana Station, showing that formalin produces quite as good or better results, and without some objectionable features connected with the sublimate. The principal objections to the sublimate are that it is poisonous, and so not pleasant to handle or have exposed within reach of people or animals, also, that it tends to retard the germination of the potato sets. Experiments in 1896 and 1897 showed that:

1.—Disinfecting with corrosive sublimate just before planting retarded the early growth of the plants both seasons.

2.—Similar disinfection performed from one and one-half to three months before planting had no retarding effect.

3.—Disinfecting with formalin had no retarding effect, but apparently slightly stimulated growth.

The observations of another year have served to strengthen these convictions. Space here will not allow the details of the experiments, but the conclusions are given as follows:

CONCLUSIONS.—The results, so far as can be judged by small plots and a single season's work, justify the conclusion that the formalin is at least as good a disinfectant as corrosive sublimate, and apparently somewhat more efficient. This, combined with its other advantages, leads us to recommend its use for the disinfection of seed potatoes.

If formalin is more effective than corrosive sublimate, as was apparently the case in our experiments, it may be due to its more rapid and complete penetration into the recesses of the deeper scab pits.

For the benefit of any who may wish to use this formalin, we will repeat directions for so doing. The seed tubers should be soaked for two hours in a solution of eight fluid ounces of the commercial formalin (formaldehyde), in fifteen gallons of water. This soaking should be done before the tubers are cut, and may be done at any time before planting, provided always that precautions are taken not to recontaminate the tubers after their disinfection, by placing them in sacks or bins which have held scabby potatoes.

As the disinfection of seed potatoes involves but little expense, all potato growers who suffer at all from the scab, are urged to use the disinfectant.

THE GLADIOLUS.

Any ordinary garden soil will suit the gladiolus, and I find it does as well with commercial fertilizers as stable manure. Have the bed, when planted, forked at least a foot deep and the dressing well worked in. Plant the corms three or four inches deep, keep the soil free from weeds, give the flower stalk some support, water thoroughly once a week in dry weather, and Mother Nature will do the rest, giving you from two to four stalks of bloom from each bulb you gave into her care, and in the fall returning two or three times as many as planted. I usually keep the corms in the cellar near the potato bins, but most cellars are too moist for this purpose, while any frost-proof room, not too dry, is suitable. I gave a lady some gladiolus corms one spring, explained the method of growing and of gathering in the fall, but I did not tell her they would freeze. In the fall, after digging and drying them, she cut the stalks off within six inches of the bulbs and laid them away where it was cool and dry until the stalks would separate easily from the bulb, then packed them in papers and hung them to the rafters in an open shed chamber, where the mercury went down to zero, just as often as it did outside.

I like to plant gladiolus in clumps, with from twelve to twenty in each clump. Prepare hills, about as for potatoes, set a stake about eighteen inches high in the center of the hill and group the bulbs about it, they do not need to be more than three or four inches apart in the hills.

For cut flowers the gladiolus is very superior. Large jars or vases of these stately beauties are effective church or house decorations. The cut flowers are very enduring. The spikes can be cut when four or five blossoms have opened and be placed in water, changing it every day, and removing the blossoms as they fade; every bud to the top of the stalk will open. When you have a plenty of the corms, a part of them may be started in boxes of moist sand or earth in the house or cold frame, and be brought into bloom earlier than those planted directly in the garden; this will give a longer period of bloom than if they were all planted at one time. In this locality, Southern Maine, usually from the 20th to the last of May is the best time for planting. D. L.

\*\*

DIRECTIONS FOR MAKING BORDEAUX MIXTURE.

The following directions are taken from the "Third Report on Potato Culture," which is Bulletin 156 of the Cornell Experiment Station. These directions are given as simpler than those given in Bulletin 130 of the same Station:

Into a barrel of water suspend a gunny sack or other porous bag, containing two pounds of copper sulphate for every gallon of water in the barrel. If this is suspended near the surface of the water at night it will all be in solution by morning and ready for use. Into a water tight box or other open receptacle place some fresh burned caustic lime, the amount to be determined somewhat by the amount of spraying to be done, but from 40 to 50 pounds of lime can be easily slaked at one time. Add sufficient water to thoroughly slake all the lime and keep stirred so that the water may come in contact with all particles. This thorough stirring is important, and the lime should be thoroughly watched and stirred for several minutes, otherwise it is likely to become dry and hard. After the lime is all slaked, cover it over with water and it is then ready for use and may be kept for

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any length of time desired, if it is always kept covered with water. Ferrocyanide of potassium may be purchased from the drug store, and comes as a solid. One ounce of ferrocyanide of potassium dissolved in one ounce of water will be sufficient for testing many barrels of the Bordeaux mixture. When it is desired to begin spraying, there should be provided two empty barrels. Into one barrel dip three gallons of the copper sulphate solution after it has been thoroughly stirred. This will provide the six pounds of copper sulphate in case two pounds were dissolved per gallon of water, and will be sufficient for making one barrel, or forty-five gallons of Bordeaux mixture. Dilute the three gallons with ten or more gallons of water.

From the lime box dip from five to ten pounds of slaked lime into the empty barrel. Add water and stir thoroughly until the milk of lime is produced, after which dilute with some ten gallons more of water. Pour the milk of lime thus diluted through a sieve into the dilute copper sulphate solution. The quantity of lime to be added to the copper sulphate is to be determined by the ferrocyanide of potassium test. After adding a small amount of the milk of lime to the copper sulphate solution, add to the mixture a drop of ferrocyanide of potassium. If a brick red color is produced where the drop strikes, it indicates that more lime is needed. Continue adding the milk of lime until no reddish color will be produced when the ferrocyanide of potassium is used. A few trials will enable one to judge very accurately as to the amount of lime required. A little surplus lime will do no harm.

If Paris green is to be used it should now be added. Take four ounces of Paris green and place it in a dish and add water just sufficient to make a paste, and stir thoroughly until a homogeneous mixture is formed. Pour this paste into the mixture of lime and copper sulphate and stir vigorously. Pour the lime and copper sulphate mixture into the spray barrel, which should have a capacity of forty-five to fifty gallons, and fill the barrel with water. If there is no agitator in connection with the pump, the mixture should be frequently stirred while being applied.

\* \*

### THE SHAMROCK.

As is well known, the Irish, at the present time, use the leaves of clover as the national emblem, or shamrock. The small white clover, *Trifolium repens*, is, by some, said to be the special variety; others say that a yellow flowered *Trifolium* is used. Probably the Irish are not so particular about the exact species as some may suppose. In reference to a specimen sent to the *Journal of Horticulture*, the following statement is made:

"The plant sent (*Trifolium minus*\*) is the generally accepted shamrock of Ireland, but old authorities believe that the original shamrock is the wood sorrel (*Oxalis acetosella*). An early writer (Sir Henry Piers), says: 'Between May-day and harvest, butter, new cheese, curds and shamrocks are the food of the meaneer sorts.' Now, wood sorrel is an agreeable salad herb, whereas clover or Trefoil, which is usually considered as the shamrock, is anything but palatable."

"Then Fynes Morrison writes of his countrymen: 'They willingly eat the herbe shamrock, being of a sharp taste.' A description applicable to the wood sorrel, but not to any species of *Trifolium*. Moreover, the clovers never grow in woods, whereas the wood sorrel has there its native place, and coincident with this the 'Irish Hudibras' states:

"Within a wood near to this place  
There grows a bunch of three-leaved grass,  
Called by the boglanders shamroges,  
A present from the Queen of Shognes (spirits)'"

These authorities, we think, justify the conclusion that the wood sorrel was the shamrock of ancient times.

\* Is *T. repens* intended?—ED.

### CONTENTS.

Antirrhinum, or Snapdragon	101
Alfalfa in Texas	109
Books, New	104
Bordeaux Mixture, Directions for Making	111
Buds and Fruit	109
Bulbs, Summer Blooming	97
Coleus thyrsoides	103
Cyclamen Persicum	103
Death of a Noted Orchidist	104
Decorating Country Churches	103
Family Cozy Corner, The	110
Vick's Seeds in India; Prepared Soil; My Kitchen Window; Give the Seedlings Room; Why not Geraniums?	
Gladiolus, The	111
Horticulturist, A Noted American	104
Hybrid Perpetuals in Pots	99
Lourya campanulata (illustrated)	101
Letter Box	105, 106
Dracena Seed; Goldfussia; Rose Hopper; Canna Requirements; Spotted Calla; Chinese Sacred Lily; Phrynum.—Winter Bloomers; Oxalis.—Amaryllis; Rhododendrons.—Roses.—Carnations; Asparagus.—Strawberry Bed.—Rose Bed.—Quack Grass; Pear Blight.—Asparagus.—Blush Rose; Seeds to Name.—Tuberose.—Calceolaria.—Cineraria.—White Geranium; Greenhouse Work; Cyclamen.—Cobaea.—Iris.	
Lilies, Notes on	108
Motherly Cares	102
Mountain Laurel (illustrated)	102
Narcissus. Van Sion (illustrated)	97
Notes from the Middle West	102
Norfolk Island Pines (illustrated)	103
Peach, Curl-leaf of the	98
Pottery—Lily of the Valley	108
May	98
Plant Enemies and How to Fight them	99
Plants, Little Known	104
Potatoes, Lessons drawn from the Acre of	108
Potato Scab	111
Raspberries in North Alabama	100
Relation of Water to Plant Life	101
Seed Pods	99
Shade-tree Pest, New	107
Solanum Seaforthianum (illustrated)	100
Some Questions Asked and Answered	107
Shamrock, The	112
Tree Planting, Mistakes in	106
Western New York Horticultural Society	104

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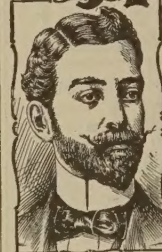
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